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The Wisconsin Medical Journal

Owned and Published by the State Medical Society of Wisconsin

A Monthly Journal of Medicine and Surgery

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VOLUME XVIII
JUNE, 1919 — MAY, 1920

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The Wisconsin Medical Journal

Volume XVIII | Milwaukee, June, 1919 | Number 1

ORIGINAL ARTICLES

MESENTERIC EMBOLISM AND THROMBOSIS.*

BY JOSEPH F. SMITH, M. D., F. A. C. S.,

WAUSAU.

In the decade from 1908 to 1918, three cases of mesenteric thrombosis have come under the observation of the writer.

Case I. That of a middle aged man, was seen late in the course of the disease. He complained of extreme abdominal pain, was uncontrollably restless, and presented a flat rigid abdomen. The temperature was slightly elevated, the pulse 160 and very weak. He vomited frequently dark colored watery fluid and had frequent stools of the same character as the vomitus. No diagnosis was made and the patient's condition was so bad that exploratory operation was inadvisable. Death occurred some hours later and autopsy revealed necrosis of about a foot of the jejunum without general peritonitis, apparently due to localized thrombosis. Death in this case was doubtless due to intestinal toxemia.

Case II. An obese woman of fifty-four, seen several days after the onset of acute abdominal trouble, characterized by diarrhea followed by obstipation, vomiting, general abdominal pain and tenderness, marked distension and tympany with no gurgling or signs of peristalsis. The temperature was 100, pulse 120, and the patient extremely restless. Exploratory laparatomy was made and the entire small bowel, as far as it could be seen, had a dull black color, the same color extending throughout the mesentery. There was no fluid in the peritoneal cavity and no peritonitis. The abdomen was closed and the patient died within twenty-four hours. No autopsy allowed. This case was apparently one of thrombosis of the superior mesenteric artery, death again being due to toxemia rather than peritonitis.

Case III. A man of fifty-four, while loading a freight car, was seized with severe abdominal pain. He was taken to his home and after having been put to bed felt somewhat better though he had occasional cramplike pains, vomited dark brown material several times during the next two or three days, and passed dark colored watery stools. When seen, about three days after onset, there was some abdominal rigidity and distension, dullness in the flanks, pulse 110, temperature 100, and the patient still complained of occasional cramplike pains. A diagnosis of obstruction was made and operation advised. On opening the abdomen, a large amount of bloody fluid escaped and several loops of dark brown small intestine came into view. Examination showed no obstruction and that the process involved three or four feet of the lower small bowel. Above and below the affected loop, the bowel appeared normal. Rapid resection of the bowel with lateral anastamosis by suture was done. It was observed that the small veins of the mesentery of the affected loop were thrombosed and did not bleed on section. Immediately following the completion of the operation, the patient suddenly collapsed and died.

These three cases, one generalized and two local, have served to emphasize in the writer's mind, the statement often found in the literature, that embolism and thrombosis of the mesenteric vessels is the rarest, as well as the most serious of acute abdominal conditions. The comparative infrequency of this condition and consequent unfamiliarity with its clinical features explains the fact that the larger number of the cases have been diagnosed at the operating table or in the autopsy room, and not at the bedside.

Watson in 1894 reported fourteen cases from the material of the Boston City Hospital in the decade from 1884 to 1894, eight of which were found in the last year of the decade. Saxer observed in the Leipzig Pathological Institute, be-

*Read before the Surgical Section, State Medical Society of Wisconsin, Milwaukee, Oct. 3rd, 1918.

tween 1900 and 1902, one case of venous and five cases of arterial obstruction of the mesenteric vessels. Schley observed that among 1600 autopsies at the John Hopkins Hospital, fourteen cases of obstruction of the mesenteric vessels occurred without producing symptoms which permitted the making of a diagnosis.

The relative frequency of arterial, as compared with venous obstruction, in the mesenteric circulation is stated variously by different observers as follows: Watson 27:3, Gallavardin 83:27, Jackson-Porter-Quinby 120:77. The combined results of the three observers would be in the proportion of 230:107, which would seem to indicate that arterial is somewhat more than twice as frequent as venous obstruction.

Arterial Obstruction occurs either by embolic plugging of the vessel or thrombotic obliteration, or a combination of the two processes; thrombosis developing at the site of lodgment of an embolus. Embolism occurs more frequently in the superior mesenteric vessel because this vessel offers the first point of lodgment, being higher in origin, has a lumen twice as large as the inferior mesenteric artery and leaves the aorta at an acute angle, coursing parallel with the aorta, while the inferior branches at an angle of 45° and courses rapidly away from the parent vessel.

The origin of the embolus is generally in the heart, being the result of valvular disease, generally mitral leakage. Atheromatous changes in the thoracic and abdominal aorta also tend to the formation of emboli which may find lodgment in the mesenteric vessels.

Arteriosclerosis forms the background for the cases of thrombosis, the process involving the aorta and extending into and involving its principal branches, including the superior and inferior mesenteric vessels.

Venous Obstruction: The mechanism of venous obstruction is much more complicated and less well understood than the corresponding condition in the arteries. Two types have been described: (a) descending, that in which the process begins in the portal vein, or other large trunks, and extends to the smaller branches; (b) ascending, that type in which the process has its beginning in the smaller branches of the mesenteric veins and extends upward, finally involving the larger venous trunks. Local ulceration or septic conditions within the bowel wall, localized septic processes between loops of bowel or about the appendix, gall-bladder, or pelvic organs, as well as those about the rectum, have been described as the starting point of this process. The embolic complications of pregnancy and childbirth, as well as those following intra-abdominal operation, have generally been regarded as ascending in character, and as being the result of mechanical injury to the vessel walls or to low grade septic processes, inaugurated by the entrance of the staphylococcus or other pathogenic bacteria into the smaller branches of the venous system.

Clinical Features:

(a) Age of incidence: Jackson-Porter-Quinby give the percentages of the cases collected by them in decades, as follows:

10th to 19th year..10%	50th to 59th year..18%
20th to 29th year..12%	60th to 69th year..15%
30th to 39th year..16%	70th to 79th year.. 8%
40th to 49th year..22%	80th to 89th year.. 3%
	90th to 99th year.. 2%

From this table it appears that the three decades from thirty to fifty-nine, comprise fifty per cent, or over, one-half of all the cases collected in their series.

(b) Symptoms:

1. *Abdominal pain:* In the series of cases collected by Jackson-Porter-Quinby three cases occurred in which there was no reference to abdominal pain as a symptom. In one hundred fifty-seven cases in which accurate data as to the occurrence of pain were given, the localization was described as follows:

General abdominal pain	51%
Pain in epigastrium	8%
Pain about umbilicus	7%
Pain in lower abdomen, right hypochondrium and upper abdomen, each	4%
Pain in right iliac fossa and right hypogastrium, each	3%
Pain in right abdomen	2%
Pain in left hypochondrium and left side, each	1%
Pain absent	8%
Pain radiating	4%

The cause of the pain is thought to be due to intestinal peristalsis, though Schnitzler has pointed out that in cases in which the pain is intermittent and recurring, it may be identical with that described by Charcot as intermittent claudication.

2. *Nausea and vomiting* is usually present as an accompaniment of the pain. The vomited material may be stomach contents, bile, bowel contents, either mixed with blood or not, depending upon the duration and severity of the process.

3. *Diarrhea and constipation:* According to some authors bloody stools are necessary for the diagnosis. Jackson-Porter-Quinby found:

Bloody stools in	41%
Obstipation in	22%
Diarrhea without blood in	13%
Normal stools in	12%
Normal stools followed by obstipation	5%

It would appear, therefore, that bloody stools occur in somewhat less than fifty per cent of the cases and that this sign is of considerable diagnostic importance.

4. *Abdominal tenderness* was present in seventy per cent of Jackson-Porter-Quinby's series, and absent in thirty per cent. In those cases in which it was noted as present it appeared as general abdominal tenderness in sixty-seven per cent.

5. *Abdominal distension* was noted in seventy-eight per cent and absent in twenty-two per cent of their series. In those cases in which it appeared, it was manifested as general abdominal distension in ninety-six per cent of the cases. Distension is regarded as a late symptom, indicative of increasing severity and is due to intestinal paresis and accumulation of gases, produced by decomposition of the material contained in the paretic loop of bowel.

6. *Intestinal obstruction* is generally to be regarded as a late symptom due to spreading peritonitis. It may, however, occur within the first few hours following occlusion of the mesenteric vessels, before sufficient time has elapsed for the development of peritonitis. In these cases it is probably to be regarded as due to nutritional disturbances in the bowel wall, consequent upon the occlusion of the blood supply to the affected loop.

7. Other clinical manifestations are:

(a) *Leucocytosis* generally present, though frequently a late manifestation.

(b) *Glycosuria,* occurring in a few cases, probably incidental.

(c) *Iodophilia,* occurring in many types of intestinal obstruction, therefore, not characteristic.

(d) *Purpura,* due to concomitant multiple small emboli in the vessels of the skin.

Diagnosis: The diagnosis of mesenteric occlusion presents the greatest difficulties, owing to the fact that many of the clinical manifestations are found as accompaniments of other acute abdominal conditions. The onset of acute abdominal pain, with abdominal tenderness—local or generalized; vomiting of dark colored or fecal material, with discharge of bloody stools, especially if there be present conditions of the heart and blood vessels favorable to the development of emboli or thrombi, should suggest the possibility of mesenteric occlusion. Volvulus and intussusception are probably the two conditions in which the clinical manifestation are most likely to resemble embolism. The presence of a palpable mass or tumor would suggest one or the other of these two conditions rather than embolism, though cases have been described in which the presence of this sign has been noted in connection with embolism or thrombosis of the mesenteric vessels. In most cases the diagnosis of intestinal obstruction in some form will be the nearest possible approach to the exact condition. Fortunately the physician will not be led far astray if this approximate diagnosis is made sufficiently early.

Prognosis: The prognosis is generally regarded as extremely bad; the cases with acute onset being much more severe and fatal than those with a gradual or intermittent history. For this reason, as pointed out by Neutra, the cases due to embolism are always more serious than those due to thrombosis.

Cases of occlusion of the mesenteric vessels have been found at autopsy, on persons dead from other causes, in which collateral circulation had been established, the condition going on to recovery. Other instances of localized occlusion have been found at autopsy in cases which had no history of abdominal trouble. Hence it would seem that localized cases, or those with a gradual onset, may recover spontaneously. Our knowledge as to the extent of the process in cases that have recovered without operation is, however, extremely meagre and unreliable.

Turning to the cases that have come to operation and in which the condition has been definitely recognized, these were collected by Reich ninety-one operated cases with seventy-three deaths,

eighteen recoveries, mortality eighty per cent. In the series collected by Jackson-Porter-Quinby forty-seven cases were operated with a mortality of ninety-two per cent. It would seem, therefore, that from an operative standpoint, this condition presents an almost prohibitive mortality were it not for the fact that in, all probability, all of the cases reported in both series would have died without operation.

Treatment: The treatment of these cases is essentially surgical and is the same problem that confronts the surgeon in volvulus, intussusception, gangrene due to mechanical obstruction and allied conditions. All surgeons of experience are well aware that these cases, generally seen late, after all kinds of expectant treatment have proven futile, are the worst risks the operator has to take. They stand anesthesia and intra-abdominal handling and manipulation extremely badly. Added to these difficulties is the fact that in thrombosis cases, the circulation of the apparently healthy bowel above and below the affected loop is always doubtful for an indeterminate distance, thus rendering the ideal operation of resection not only directly but remotely most hazardous. The expedient of bringing the doubtful loop outside the abdomen, stitching it into the wound, after the method of Mikulicz, has often been employed and is the method recommended by Jackson-Porter-Quinby in dealing with gangrene of the bowel due to embolism and thrombosis. This method, while far from ideal, is admirably adapted to these cases in which the lesion is situated in the lower ileum or colon. In lesions of the upper bowel, even this procedure generally succeeds only in saving the patient from death from obstruction, to substitute a later death from starvation. In these cases of localized gangrene of the upper bowel, due to embolism or thrombosis, the operator has to choose between resection and anastomosis with its very high risk or to closing the abdomen and leaving the patient to his fate. Roswell Park said, "In the presence of sudden and acute symptoms, which include intense abdominal pain, collapse, and rigidity of the abdominal walls, very little time should be wasted in speculation as to the cause of the lesion. This triad of symptoms constitutes a reliable and exacting demand for abdominal section, followed by such suitable measures as the case may call for or permit. No such case would be lost in consequence of it, while every such case must, without it, of necessity prove fatal. Of these cases, as of most others in the hands of competent men, it should be said that *they die in spite of an operation, not because of it.*

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DISCUSSION.

Dr. C. H. Lemon, Milwaukee: Mr. Chairman and Gentlemen of the Surgical Section: I think a paper of this kind is valuable, for the reason that it calls attention to a condition which is unquestionably exceedingly rare. The matter has been covered very thoroughly by the reader of the paper with one exception and that is as to the etiology.

Some of these cases are due to thrombosis. I recall one, very early in my experience, of a boy about eight years of age who was struck by a stret car and, beside having some minor injuries to the scalp, he received a compression injury to the abdomen. A week later this boy developed acute abdominal symptoms and was operated by the late Dr. Mackie. In that case gangrene of one inch of the small intestine occurred. Dr. Mackie at that time resected the bowel and brought the two ends out on the abdomen. The boy shortly after died.

Another traumatic case that I recall was a man who was thrown from a high wagon and received very severe lacerations about the face and scalp, and two days later, perhaps three or four, developed acute cerebral symptoms, and it was supposed by others who saw the case, that he was suffering from wounds of the face and scalp, which were dirty and filled with grease. The man suddenly died, and the postmortem showed gangrene of a very marked degree of the bowel, resulting from thrombosis.

While in Philaelphia some years ago at a clinic, I saw one of the other type described by the reader of the paper, in which eight feet of the bowel had been found gangrenous and excised and I saw the man alive in the clinic a week later.

Another case that came under my observation was a man about forty-five, who was working up to the day of his death; he had come in to the hospital from the shop where he was taken with very severe pain. He

walked into the hospital and after a preliminary preparation was put on the table, and when he was fully anesthetized, a gush of fluid came from his mouth, I would say an amount of possibly a gallon or gallon and a half, and that man drowned before it could be stopped.

This paper is particularly instructive to the younger members of the profession as it calls attention in a very clear manner to the cardinal symptoms which accompany embolism of the mesenteric arteries. The symptoms which accompany this disaster are of such striking character that they should not be mistaken for acute peritonitis following the rupture of an appendix. Being strictly emergency cases, no time should be lost in submitting them to laparotomy.

Dr. Daniel Hopkinson, Milwaukee: I remember very well a case of thrombosis, a vessel leading to the sigmoid, the result of traumatism as Dr. Lemon has described. The man suffered from a crushing injury and died about a week following, gangrene of the sigmoid with perforation developing. The most striking feature of the case to me was the absence of any hemorrhage or surface appearance of injury in the wall. I believe this was the misleading factor in the case; no one suspected that at that time there had been a complication the result of injury. The dissection of the abdominal wall to determine whether or not there had been any hemorrhage into the tissue was made, and there was absolutely an absence of any evidence of local injury, but there was no question that the thrombosis was the result of an injury which the man sustained; he incidentally had a fracture of the left femur.

THE TRAINING OF THE MEDICAL SPEECH SPECIALIST.

By Walter B. Swift, M. D., Expert Advisor Speech Defects.

Summary: A rather lengthy article on the training of the speech specialist shows the great value of oratory as giving the speech man an understanding of the psychology of dramatic development. Special scientific education is shown to be of value in giving the mastery of instruments in a psychological laboratory. As for example the Harvard Psychological Laboratory where Dr. Swift worked for over a year. The value of general medical training gives a medical background for diagnosis. General medical experience gives necessary first hand touch to medical diseases that is necessary in the background of speech. This medical training refers to the regular medical training, not to any of those little schools that imitate the real scientific medical instruction. Special medical training in nervous diseases and with foreign experts and our home experts is weighed in all its phases of value. Then Dr. Swift shows the value of home clinics, teaching, lecturing, and writing as final functions of an all-round development of the medical speech expert in one clinic in the United States where all this training exists as the background of instruction there.

COMMON GYNECOLOGIC ERRORS.*

BY CHESTER M. ECHOLS, M. D.,

MILWAUKEE.

The limitations of this paper do not permit an extended discussion of the whole field of gynecologic mistakes. My remarks will be limited, therefore, to a few of the common errors, selected more or less at random, which have come repeatedly under personal observation. Of course, it most be borne in mind that what appears to one surgeon or physician to be an error, may appeal to another as being perfectly good practice. Personal opinion, therefore, cannot be entirely eliminated in the selection of the following list of what I have classified as mistakes.

1. The routine curetting of the uterus after abortions, irrespective of definite indications, is now almost universally condemned. Yet it is surprising to find that this questionable practice is still adhered to by a considerable number of physicians. There is a large class of foreign born patients in this city, who after spontaneous abortion will invariably say, "Doctor, don't I need a cleaning?" By "cleaning", they mean a curettage. I have had the greatest difficulty in convincing some of these patients that they do not need a "cleaning" as they call it. Their attitude shows conclusively that they have come to look upon a port-abortive curettage as good practice. The doctor who curettes routinely in such cases often justifies his action by producing half a handful decidua, which he displays, labelled Exhibit "A", under the mistaken designation of membranes and fragments of placenta. This decidua is present of course in every case, but is no justification for meddlesome scraping. Watkins has sufficiently demonstrated that the puerperal uterus which will not empty itself satisfactorily is the rare exception and not the rule.

Likewise in puerperal patients with high fever and tympanites, there is too much intra-uterine meddling. The enthusiasts who hope to disinfect the uterus by means of Dakin's or other solution, forget that only the superficial bacteria can thus be destroyed. More of these patients will get well under expectant than under operative treatment.

2. Regarding vesico-vaginal fistula, produced

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*Read before the Surgical Section, State Medical Society of Wisconsin, Milwaukee, Oct. 2nd, 1918.

as an accident to delivery, I am convinced that operative cure is sometimes undertaken too hastily. A large proportion of these fistulae, if not too large, will heal spontaneously after a few weeks.

3. Too many operations are done to relieve sterility in women without sufficient preliminary investigation as to the probable cause of the sterility. These investigations should determine at least two facts. First: The character and amount of the so-called vaginal secretion, and second, whether actively motile spermatozoa are present in the vagina within an hour after coitus. These two conditions can be determined by any physician who is willing to take the necessary time and pains to investigate.

4. Among the sins of omission on the part of the surgeon is the failure to palpate the gall bladder and ducts, kidneys, and appendix, which should be done in the course of practically all ordinary abdominal operations where a mid-line incision is made. Of course, exceptions are to be made in the case of acute conditions where such extensive exploration might spread infection. This criticism is less to the point now, I believe, than it would have been a few years ago.

5. Regarding chronic gonorrheal infections in women, two classes of mistakes are quite commonly made.

First: It is an error to assume that a woman has not had gonorrhoeal infections merely because we cannot elicit any history of an acute attack. When a man has an attack of gonorrhoea he is sure to know about it; but it frequently happens that a woman may have contracted the disease without being aware of it.

Secondly: It is a mistake to say that a woman does not now have chronic gonorrhoea merely because one or two microscopic examinations prove negative. Because of this fact, all the attempts formerly made to control venereal disease among prostitutes in the larger American and European cities by means of periodic examinations by city health authorities, were doomed to failure.

6. As to the diagnosis of ectopic pregnancy, mistakes will probably always be common. This is due in part to the relative rarity of the condition which prevents the average physician from seeing more than a few cases in a lifetime, and in part to the inherent difficulties in the diagnosis of those cases which are not in the stage of an acute internal hemorrhage. However there are two classes of mistakes which occur so repeatedly as to deserve mention in this paper.

First: The mistaking of tubal pregnancy, with its history of one or more missed periods and metrorrhagia, for threatened or incomplete abortion. In a report of thirty-seven cases of ectopic pregnancy which I read before this society two years ago, I stated that nearly fifty per cent of them had been diagnosed as cases of ordinary abortion and many of them had been curetted, without any relief of the symptoms.

The second class of errors in this connection is one which is apt to be made by a doctor who has had one or two sad experiences with ectopic pregnancy. The doctor who has once been caught napping and failed to recognize a ruptured tube is often sharply on the lookout for other similar cases, with the result that he diagnoses cases of threatened abortion as extra uterine pregnancy. I have repeatedly been called in on cases of alleged tubal pregnancy, only to find that the pregnancy was intra-uterine. Parenthetically it may be said that the doctor who errs in this direction is a much safer one from the patient's point of view that the doctor who lets his patient bleed dangerously without even suspecting a pregnancy in the tube.

7. A mistake that is commonly made in the examination of a patient to determine the degree of cystocele and prolapsus uteri, is to make the examination with patient on the table, and without also examining her in the standing position. Cystocele and prolapsus uteri are merely forms of hernia. In examining a candidate for military service, who among you would test the inguinal canals with the patient lying on a table? You would have the young man stand erect and perhaps on tiptoe and then ask him to cough. So, in testing the bladder and uterus for prolapse, it is just as important to have the woman stand during at least a part of the examination as it is to have the patient stand in testing for inguinal hernia.

8. It is to be deplored that hysterectomy is too often done for prolapse of the uterus, especially in women past the menopause. Too often the surgeon reasons that the uterus is no longer of any use and therefore might as well come out, forgetting that the uterus in an elderly woman is

generally a small atrophic affair, perhaps weighing not much more than an ounce. The weight of the organ in such a case cannot be considered even a contributory factor in producing the prolapse. It is almost always better surgery to preserve the uterus in cases of prolapse, and make use of it in one of the many plastic procedures for the cure of the hernia of bladder and uterus.

9. It is a mistake to consider every woman with a retroverted uterus and first degree prolapse as a candidate for operation, especially if the retroverted uterus is replaceable by manipulation. I am convinced that pessaries are not used in such cases as often as they should be. Personally I use them ten times as much as I did a few years ago. This advice is particularly applicable in the case of younger married women who expect to have, or will probably have, future pregnancies.

10. To caution against the neglect of irregular bleeding near the menopause would seem like repeating a trite and threadbare warning, and yet the number of malignant conditions of the uterus that continue to develop to an inoperable state from this form of neglect, reminds us that the medical profession as well as the public still needs more education along this line.

11. There is a tendency among some members of our profession to undertake Caesarean section without strictly legitimate indications. The motive for so doing,—well, you may judge that for yourselves. Not long since one of the younger surgeons of this state,—a man who would resent being called a general practitioner or an obstetrician,—said to me with evident complacency, "I did my 17th Caesarean last week." I said to him, "Is that a confession, or a boast?" Without entering into a discussion as to the indications for Caesarean section, which will be treated in another paper on this program, it is permissible to observe that in order to prevent this operation from falling into disrepute, the indications for carrying it out ought to be more carefully scrutinized. When a doctor falls under suspicion of doing too many unnecessary Caesarean operations, it seems to me that the hospital authorities where he does his work should insist on the same form of control as they would if he requested permission to do a so-called therapeutic abortion.

12. Too many hysterectomies for fibroid tumors are done in women under 35 years of age. This statement applies to those cases in which the tumors are circumscribed and can be easily enucleated without disturbing the menstrual or the child-bearing function. Myomectomy or enucleation of fibroids can in most cases easily be done without appreciable risk even when the tumors are multiple. It may be argued against this procedure that the tumors may recur. Experience shows that fibroids thus removed are not prone to recur after the age of 35 years; but when one does recur now and then, it can be removed if necessary by an operation no more serious than the first. The following notes taken from the records of two severe cases of multiple fibroids in which myomectomy was done will serve to illustrate the advantages of this form of conservatism:

Case 1. Mrs. G. R. Age 34. Married.

This patient came under my observation in January, 1914. She had been married a little more than one year and was at that time in the second month of her first pregnancy. Examination disclosed multiple fibroids, the largest of which was the size of a lemon. She aborted a few weeks later. Being very anxious to have children she consulted a number of surgeons and gynecologists, nearly all of whom advised hysterectomy. Contrary to this advice I removed all the fibroid tumors in March, 1914. The operation necessitated making multiple deep incisions in the uterus to remove all the tumors. The patient's menstrual function was thus preserved. Fifteen months later she became pregnant and is now the mother of a 2½-year-old daughter. There is no sign of recurrence of the tumors.

Case 2. Mrs. N. W. Age 28. Married one year ago.

When first examined in August, 1917, she was in her third or fourth month of pregnancy. Examination disclosed the presence of several fibroids in the wall of the uterus, varying from the size of an apple to a croquet ball. Although she threatened many times to abort, she went to full term without any serious mishap. I had planned to deliver this woman by Caesarean section because of the low situation of one of the large tumors which would have made normal delivery impossible. Unfortunately the foetal movements and heart sounds stopped a day or two before the time set for the operation. It seemed best to proceed with the abdominal section, not-

withstanding that the child was already dead. After removing the dead child which was fully developed and of average size, it became a question whether to remove the uterus or to remove the numerous fibroids and try to preserve the menstrual and child-bearing functions. The Porro operation would have been far easier and undoubtedly safer than myomectomy. The latter course was decided upon and carried out, notwithstanding the large size and great number of the tumors. This operation was done at St. Joseph's Hospital January 7, 1918. This patient was very anxious to have children and it would have been considered by her a calamity to have lost the uterus. She is now pregnant again and a very greatful patient.

DISCUSSION.

Dr. J. S. Thomas, Milwaukee: I agree most heartily with practically all of Dr. Echols remarks, and I do not intend to differ with him, but rather bring out a few points. I would like to take up a few subjects, particularly curetment after abortion. About 12 years ago when I was interne at the Chicago Lying-in-Hospital, Dr. Lee's rule was to curet every incomplete abortion that was not infected, with a sharp curet. The rule was to curet if the woman did not have a temperature over a hundred. Now, at the same time, I remember Dr. Murphy taught the opposite course. Dr. Murphy stated that there never was an indication to use a sharp curet, and that every man that went out with a sharp curet in his satchel, should take a policeman along to protect the patient. There are the two extremes in men who were both recognized as authorities. I feel as Dr. Echols, that there should be definite indications to justify a curetment in these cases, and that routine curettage in all posts abortive cases is unjustified and frequently harmful. The risk of the anaesthetic is of no small consequence. We get on the County Hospital service, a large number of post-abortive cases, and we do not treat instrumentally the infected cases as a rule, but treat them according to Watkin's method, and a large majority of them who are not suffering from septicemia, recover under treatment. The majority of infected cases are actually injured by local interference. We get also a number of cases coming there who should have had a curettage and did not, women who have pieces of placenta that have been in the uterus for four, five and six months, which have become organized and it practically takes a major operation to remove. These women have been bleeding until very anaemic and many of them are very weak and although they haven't become infected, yet a great many of them certainly were clean-cut cases for curetment in the first place, and should never have drifted on for months before this curetment was done. These patients make an uneventful recovery as a rule, and the patient leaves the hospital in good shape. Another point of Dr. Echols', that I would like to accentuate, is failure to recognize ruptured ectopic pregnancy. On the County Hospital service we get a number of ectopic pregnancies, and I have never seen one come in with that diagnosis. Most of them come in with the diagnosis of incomplete abortion and have been told that they needed a "cleaning," and sent there for a curettage. We have been lucky because the Hospital has such a complete method of taking histories, to diagnose a majority of these cases, and operate for ectopic pregnancy as indicated. I do remember curetting one case out there first, as an incomplete abortion, discovering later that it was an ectopic pregnancy, when uterine bleeding continued despite the curettage. More than once, I have been called to the 'phone, and the doctor said he had a case of acute appendicitis that must be operated right away. No temperature, no nausea, no vomiting, pulse 110 to 120. No pelvic examination made because patient was menstrating. History of having gone a week to ten days over her regular period. Such a case can be diagnosed as ruptured ectopic pregnancy over the telephone. Why the general practitioner has such horror of examining a menstruating woman, I cannot understand. In his mind it seems to be a postive indication to avoid a vaginal examination. I agree with Dr. Echols that too few Caesarian Sections are performed. No doubt, there are some physicians who see too readily indication for Caesarian Sections, and thus bring the operation into disrepute. However, I believe the operation is justified in many cases other than those where delivery per vagina is impossible. In defining indications for it, the present and future welfare of both the mother and child should be considered. To have avoided the performance of Caesarian Section by dragging a mangled baby through a lacerated vagina, with forceps, is no deed of which to be proud. Fibroid tumors of the uterus are too commonly used as indications for laparotomy. The mere presence of such tumors does not justify operation. There should be accompanying symptoms also.

I wish to say a few words calling attention to the practicability of ovarian grafting in cases where it is necessary to remove both ovaries. In the great majority of cases some healthy ovarian tissue can be saved and transplanted into the abdominal wall between the muscle and peritoneum, where it is free from pressure. By placing it high, in a pocket made with a forceps, to either side of the incision, contact with the drain, if any is used, maybe avoided. I have not had a single complaint of any unfavorable symptoms by any patient on whom I had done ovarian grafting. Recently I had occasion to open the abdomen of a woman who stated that both tubes and both ovaries had been removed two years previously. The surgeon assured her positively of this. In making a routine inspection of the pelvic organs, I discovered a normal appearing ovary attached to the mesentery of the sigmoid, several inches distant from its original location. Evidently, after amputation, it had been lost in the abdomen, and chose for itself a new point of attachment. The other ovary was missing, but the woman menstruates regularly every month.

Dr. J. F. Pember, Janesville: I was to Dr. Watkin's clinic here a short time ago, and he made this state-

ment: In any examination that we are able to make before operation it is often impossible to demonstrate that this woman is suffering from the effects of a Nisserian infection. The laparotomy discloses these facts: that if you remove a portion of the tubes and grind them up you find that it was the result of a Nisserian infection.

SOME UNUSUAL FOREIGN BODY CASES.*

BY VERNON A. CHAPMAN, M. D.,

MILWAUKEE.

There is something about foreign body cases that excites the surgeon's keenest interest. Perhaps it is because so many of them require his ingenuity in devising original ideas and methods for their removal. Certainly in many instances the removal of a foreign body is like opening a "Surprise Package".

I propose simply to report a few cases hoping to add to the interest of this meeting by encouraging the reporting of a case or two by each member present.

CASE 1. A. L. Meeker. Age 43. Blacksmith by occupation, Muskegon Heights, Michigan.

Referred to me by Dr. R. G. Olson, of Muskegon Heights, July, 1908.

History is as follows: About 11 years ago patient was sighting a rifle which was fastened into a vice. He was shooting this loaded with white powder and after a couple of shots the gun exploded at the breech. He was knocked down and carried unconscious to a hospital. There was a wound of the face just beneath the left eye which he stated was probed by the attending surgeon and closed up and which healed without any complications. He states that he has had some trouble with double vision at times since then. For some time lately patient has noticed a discharge from the left side of the nose. There was

*Read before the Eye, Ear, Nose and Throat Section, State Medical Society of Wisconsin, Milwaukee, October 3 1918.

bad odor to this. A few weeks ago the discharge from the nose ceased and a small sinus opened at the site of the wound under the left eye. This has been discharging steadily with purulent discharge of bad odor. Upon questioning closely the patient declares that every portion of the exploded rifle was found excepting the ejector pin. That he did not think there was anything in the wound as it had been probed carefully at the time of the injury.

X-ray was not available but patient was advised that there was probably some foreign body in the antrum or else some necrotic bone beneath the eye, but that at any rate the antrum should be opened and searched and cleaned out.

Operation was performed at Hackley Hospital. Patient under general anesthesia. The upper lip was retracted, incision made through the mucous membrane and periosteum which was well retracted back from the canine fossi. Opening into antrum was made with hand burr and this opening enlarged with Rongeur forceps. The finger was introduced after clearing away considerable pus and debris and the antrum was apparently free of foreign body. Deep in the antrum wall however, beneath the orbit was felt a hard perpendicular ridge which was slightly movable on pressure sideways. Upon irrigating the antrum and drying with gauze it was seen that this was a black object and not bone. It was seized by forceps and while movable could not be removed. Traction upon it moved the eyeball above it. The old sinus opening in the face was slightly enlarged and a heavy grooved director inserted which passed back under the orbit. By prying upon the foreign body with this pushing downward with it and at the same time causing traction by the forceps through the antrum I was able to dislodge and bring forth a large piece of steel about one inch square and three-eighths inch thick which weighed one ounce. This was of irregular shape a curved portion extending up behind the eyeball. It was a piece of the breech of the rifle and had lodged against the sphenoid bone at the base of the skull. A large portion of the bony floor of the orbit was gone, either having been torn away by the foreign body as it entered or destroyed later by pressure erosion. The wound was irrigated, a small opening made between the antrum and the left nasal passage below inferior turbinate. The antrum cavity was packed with gauze saturated in balsam of peru with castor oil, and the end of the gauze brought out through the opening in the nose. The incision in the jaw over canine fossi was closed by sutures and a small gauze drain inserted in the sinus beneath the eye. Under usual care the wound readily healed, discharge ceased, and patient has had no trouble since that time.

The accompanying photograph shows the foreign body a trifle less than exact size.

Case 2. Joseph Schaener. Age 9. Hart, Michigan.

Patient was sent to my office by Drs. J. H. Nicholson and L. P. Munger of Hart.

The history was that this boy and a number of others were playing in the school room and one boy threw a bicycle bearing ball across the room and it entered Joe's ear (left). The boy's frantic efforts to remove it only resulted in pushing it in further. And, physician's efforts to remove it only pushed it further into the ear. The boy was put under chloroform at Hart, and the doctors exhausted all their means to remove the ball but failed.

The boy now, some 8 hours after injury shows a badly swollen ear with bleeding canal. In the very depths of the canal well past the isthmus is seen a smooth round shining foreign body. It is a steel ball. The canal is swollen so that it is nearly closed outside of the foreign body. It is absolutely impossible to grasp it with any instrument. It simply rolls in its bed.

The boy was taken to Hackley Hospital operating room where I kept my Giant Magnet. A giant magnet tip was introduced a number of times but as soon as the traction upon the ball began the boy would pull away from the instrument. He had been under general anesthesia so long only a few hours before I wished to avoid further anesthesia. By turning off all the current from the magnet by a switch I introduced a long slightly curved magnet tip well down into the ear till it was apparently touching the ball, then the whole current was turned on. Immediately the boy leaped from the table with a cry, the steel ball being attached to the magnet.

The canal was irrigated with lysol solution, thoroughly dried and carbolized glycerine solution instilled, followed by gauze packing. Dressing was changed twice daily and in a few days the swelling had all subsided with normal hearing.

Case 3. Charles M. Aged 9. Muskegon, Michigan.

This case came to my attention through my duties as Oculist and Aurist on the Medical Advisory Board of the Public Schools of the City of Muskegon.

The teacher complained that the boy had a profuse catarrhal discharge from the nose which was of such intolerable odor that the children could not sit near him. This had been going on for more than a year and was becoming worse.

Such examination as could be given at the school dispensary led me to believe that the boy had a purulent sinusitis or ethmoiditis with necrosis of bone. He was sent to Hackley Hospital together with a number of cases of tonsils and adenoids for operation.

At the hospital the condition was somewhat ameliorated by nasal douches. A few days later the boy was put under general anaesthesia and a mass which I took to be a sequestrum portion of middle turbinate bone was seized with turbinate forceps and removed. It was more leathery and flexible than a sequestrum would be and when the foul secretions in which it was bathed were washed away it was seen to have printing upon it. Upon further investigation it was found to be a section of the boy's school reading book. It was of about a dozen pages in thickness and the size of, and very much resembling in shape, a medium sized Simpson's nasal tampon. How it came to be well up in the superior meatus of the child's nose never was explained.

The boy's recovery was rapid and complete under cleansing nasal douches.

Case 4. Baby Hoggatt, Age 6 months.

Dr. R. G. Olson, Muskegon Heights, Michigan, telephoned to me one dark November evening in midst of a pouring rain that he had an accident case that he wished me to see with him about six miles in the country. He stated that it was probably a fish hook in a child's throat. In company with Dr. Olson I visited the patient at an ill kept farm shack. Patient was in the mother's arms breathing with some difficulty and having frequent attacks of hard coughing.

The history we gathered was as follows: The father had been fishing and had some loose fish hooks in his coat pocket. That evening upon his return he had taken a handkerchief from his pocket and presumed that a fish hook had dropped upon the floor. The baby had found this and put it into his mouth. While playing about he was seized with a violent coughing spell and became blue in the face. The frantic mother had opened the child's mouth and peering into the throat, saw something black. This she seized and jerked upon with result that she forced the barbed end of a rather large fish hook deeply into the baby's tongue at the base just to the left of the epiglottis. She had pulled upon this two or three times apparently and the whole curved part of the hook with a large barb was buried deeply into the base of the tongue.

Upon inspection the shank of the hook with the ring could be seen deep in the child's throat mingled with blood and mucous. The child was put under general anesthesia by Dr. Olson, a low couch being used as an operating table. It was absolutely impossible to return the barbed end of the hook by the way in which it entered, and, while the shank could be grasped with forceps, it was difficult to see the foreign body or to manipulate it. By grasping the shank with artery forceps and pushing finger back along this and along the shank of the hook twisting the hook to the left side by the forceps and pushing downward and forward upon the portion of the hook where it entered the tongue, I succeeded in crowding the barbed end on through the tongue and out beneath it at the left side. This was then seized by another pair of artery forceps. I then introduced a pair of opened wire cutters down along the artery forceps which grasped the shank of the hook and down the shank of the hook as far as I could towards its insertion in the tongue. After considerable difficulty the shank of the hook was cut through by the wire cutters and the shank removed grasped in the artery forceps. I thought it would an easy matter then to remove the balance of the hook as it was grasped at the barbed end by forceps. I found however that it could not be rotated far enough with forceps attached to permit its turning in the tongue so that the remaining portion of the shank could be drawn through the tongue. I hesitated a long time to remove the forceps as it evidently was going to be difficult to get a hold of it again and I also considered the possibility of the foreign body becoming loosened and dropping into the larynx. After considerable manipulation it was seen that it would be impossible to remove the hook with the

forceps attached and the forceps were removed. I then endeavored to remove it by manipulating with the finger but found that it could not be done. The amount of blood and mucous was causing a great deal of trouble as some of it was going into the child's larynx. In order to clear this away I made up a rather large swab of absorbent cotton grasped in a pair of forceps and wiped away the mucous. Upon again introducing the finger to find the foreign body I found it was gone, and the mother called our attention to something which had dropped among the instruments on the towel by the child's head when I was wiping out the bloody mucous from the child's throat. You may be sure that we were very much relieved to find that it was the balance of the fish hook.

What had happened was this: In introducing the cotton swab it had struck the cut shank end of the fish hook and turned it back thus throwing the barbed end forward and upward and when the cotton swab was withdrawn the barbed end had been tangled in the cotton and thus the foreign body was withdrawn.

The child made an uneventful recovery.

Case 5. Gearge H. Muskegon, Michigan.

Father brought the child to my office stating that the left ear had been bleeding and there was an indefinite history by the boy stating that another youngster had put something into his ear and "pushed it down with a stick," some hours before.

Upon inspection after clearing out canal a foreign body was seen deep in the canal well past the isthmus. It was round and smooth and slippery, and by dint of much questioning we came to the conclusion that it was probably a fresh cherry stone. It was impossible to get anything around it or at the side of it or to grasp it by forceps. The canal had begun to swell about it. I introduced a dentist's drill and bored a tiny hole through the shell of the stone near the lower border and a second hole near the upper border. Then by introducing a pair of alligator forceps, inserting one blade into the lower hole and one into the upper hole, it afforded a good opportunity to grasp the shell and it was withdrawn without much trouble.

Recovery was uneventful.

Case 6. Patent, Ralph Clark. Aged 13 months. Hart, Mich.

Case referred in June, 1910, by Dr. L. P. Munger of Hart, Mich.

History as follows: About ten days ago mother left child on the floor playing with some sticks. When she returned the child was blue in the face. Was choking and gasping and evidently in great distress. No sound was made by the child although it was apparently crying at times that it could get its breath between paroxysms of choking and coughing. Child vomited a couple of times.

Mother took up child and paroxysms became less after a while and child drank a little water.

Ever since then child has had difficult breathing with occasional paroxysms as at first. Child has taken some nourishment and vomits at times. Has not been able to make a sound with vocal cords even when crying. Is rapidly failing in bodily condition and in strength. Sleeps a lot lately as it is apparently greatly exhausted. Breathing is at all times labored.

Questioned closely mother insists that there was nothing within the child's reach that it could have gotten into its throat.

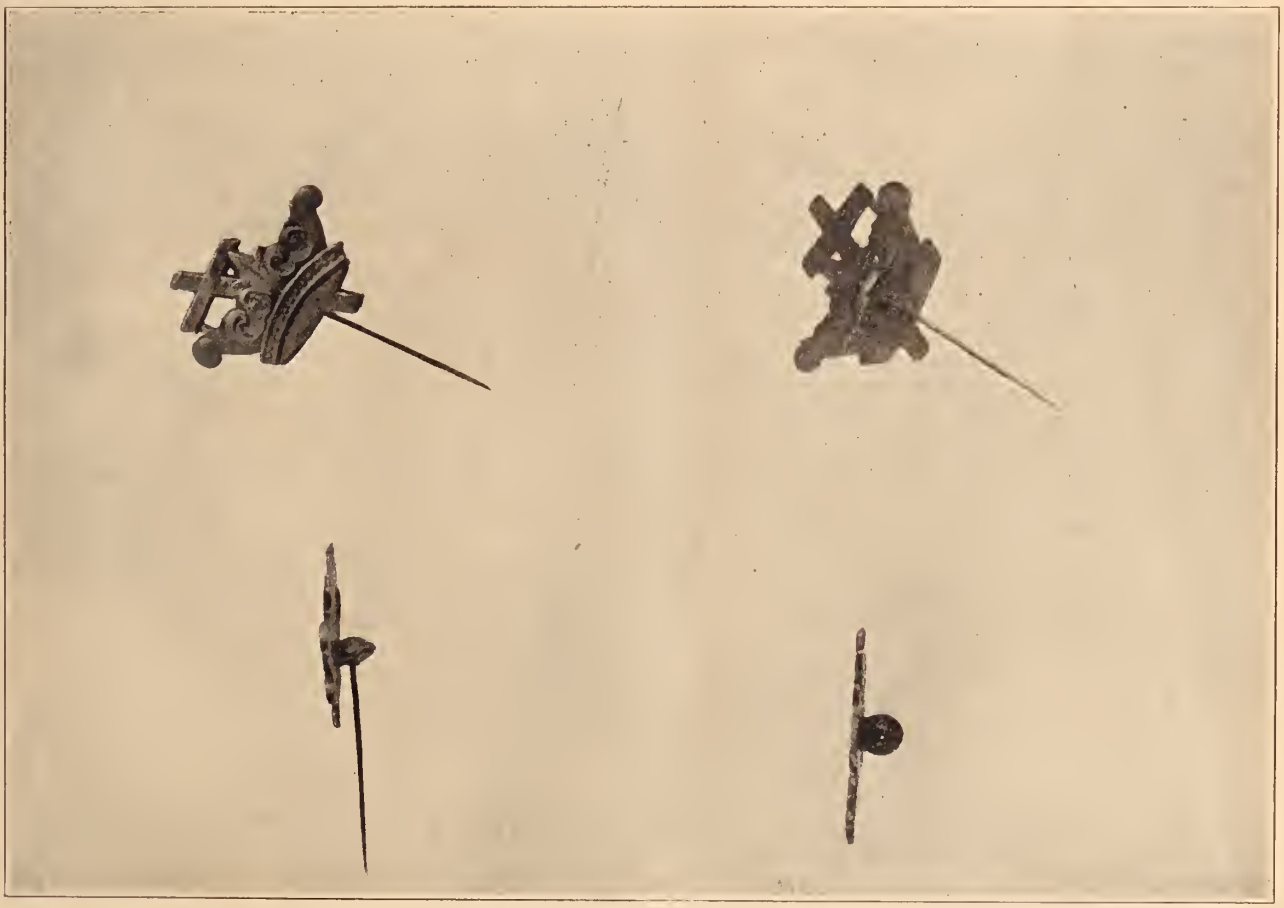
Fluoroscopic examination shows a foreign body in child's neck apparently in the oesophagus and of indistinct outline. Resembling a bunch of safety pins pinned together. Roentgen Ray plates showed this same body but plates were not clear enough to give further information. The question arose as to the location of the foreign body. In my opinion it was in the oesophagus. But why should the child be unable to make a vocal sound if the foreign body was not in the larynx? Pressure upon tre recurrent laryngeals might account for the paroxysms. Consultation failed to give me any more light on the case.

Evidently the child must get relief from the dufficult breathing and the exhausting paroxysms as soon as possible. Under general anaesthesia I did a free Tracheotomy June 29 and explored the larynx and trachea and could find nothing. The child breathed much easier. A tracheotomy tube was introduced and child put to bed under a croup tent. Under careful nursing child picked up in general condition very much. The paroxysms had subsided but vomiting occurred at times.

On July 7 the child's condition was improved so that further efforts could be made to remove the foreign body which was still in the throat.

Child was given choloform anaesthesia through

tracheal tube. A hard irregular foreign body could be felt with tip of finger passed well down into the pharynx. Efforts to remove this by various forceps failed. It was caught in forceps a couple of times but could not be dislodged by a safe amount of traction. Finally a long handled shoe button hook was passed along the finger down to the foreign body and hooked beneath it at posterior wall of the parynx. By careful manipulation I was enabled to dislodge and bring forth a large brass pin with a cross and crown design which the mother instantly recognized as one which came as a premium with gum.



It had lodged with design end downwards in the oesophagus and the pin, pointing upwards and forwards had been driven by the vomiting efforts, through the anterior wall of the oesophagus into the larynx.

The trachael tube was continued in place for a few days and then removed. The wound closed and healed rapidly and child made an uneventful complete recovery. The accompanying photograph shows the foreign body at exact size.

Foreign bodies in and about the eye are of very frequent occurrence and of many varieties. I have seen in my own practice two cases of cilia in the lachrymal duct. The end just protruding from the punctum. These are not rare but are annoying to the patient and are easily overlooked in the search for the cause of irritation of the eye.

The giant magnet is very frequently used in removing magnetic bodies from the eye and is often indispensable.

I have in mind at present one case in which the results of its use were especially gratifying. A machinist was struck in the right eye by a small sliver of steel. It perforated the cornea and entered to just such an extent that while the surface edges of the wound of entrance had approximated over the foreign body and the greater portion of the steel was in the anterior chamber, yet the end of the sliver was still caught in the wound in inner layers of the cornea. Any effort to remove it by instruments would certainly have dislodged it into the anterior chamber. The giant magnet withdrew it between the approximated edges of

the wound of entrance and the workman recovered promptly with practically no loss of time and no loss of vision.

The use of the giant magnet should not be confined so much to the eye alone.

My magnet has on seven different occasions solved the problem for general surgeons who were endeavoring to remove steel foreign bodies which could not be grasped by forceps after repeated trials. Four of these were fragments of needles broken off in hands. One a fragment of needle broken off in a child's knee; one in a foot; and one, a sliver of steel driven into a machinist's hand. Each of these were readily located by the roentgen ray; could not be found when free incision had been made, and were withdrawn when tip of giant magnet was introduced into the incision.

DISCUSSION.

Dr. Franz Pfister, Milwaukee: That is a good illustration of the different cases, but it seems to me, though, in one instance, I would do different: That is the operation for the foreign body in the external canal. I would do as I have done once and I have seen many others do—I would simply make an incision behind the ear and take it out and sew the wound together. The doctor did not say whether he did this extraction under general anaesthetic or not. I think it would be easier to get it out that way, and prevent the ear drum or the ear from being injured in the attempt. He speaks of his electro magnet extraction without anaesthetics, and if he did not use anaesthetics, he did very well. But the simpler way, I think, is the deflection forward of the ear lobe, and taking it out that way and sewing the wound together.

Dr. M. P. Andrews, Beloit: A simple method of removing round foreign bodies from behind the isthmus of the canal, which is some times effective, is to pack in a small cigarette drain after saturating the tip of the gauze end in collodion. This is left in place until thoroughly dry, and then pulled out. Many times the foreign body will adhere to the gauze in so doing.

Chairman (Dr. S. S. Hall, Ripon): Portions of this paper remind me of my first introduction to cases of foreign bodies in the ear. I think it was in 1866. At that time this department of surgery belonged to the general surgeon. We had no specialists particularly. Dr. Henry J. Bigelow, our professor of surgery, did not feel very well one day, and he says, "I am just going to talk to you today, gentlemen, about some things that you ought to know, that are not usually spoken of in the course of lectures." He sat in his chair and hung his leg over the arm, and he says, "Foreign bodies in the ear." When I am called to see cases of foreign bodies in the ear, I often find that the medical attendant has removed the ossicles, and in a recent case I found that the attendant had removed the contents of the ear completely, and was attempting to remove the petrous portion of the temporal bone." He said, "Gentlemen, I would advise you not to attempt to remove the petrous portion of the temporal bone through the ear, as a rule. (Laughter.)

Dr. Chapman: I haven't anything further to say except in regard to the remarks of Dr. Pfister—making an incision behind the ear. That is the very thing I wanted to avoid. This extensive operation was avoided by the simple use of the giant magnet. Of course if it had been a stone or some other non-magnetic foreign body, this other procedure would have had to be taken. I cannot see wherein the ear could be injured by the use of the giant magnet. The steel ball had already been forced in beyond the isthmus and was lying against the drum membrane. The magnet tip was not pressed against the ball. I will say furthermore that the child recovered very rapidly and had normal hearing afterwards. The drum membrane was not injured. I thought we were rather fortunate in having a magnetic foreign body to deal with, so that it might be removed without the cutting operation which Dr. Pfister suggests.

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"Procaine for Local Anesthesia in Surgery, the Specialties, and Operative Dentistry" is the title of a new booklet by Dr. F. H. McMechan, Editor of the American Yearbook of Anesthesia and Analgesia. It is an editorial abstract of a series of articles on local anesthesia prepared by Dr. McMechan, and presents in simple, boiled down, yet detailed style the advantages of procaine over other local anesthetics; the various solutions and combinations used and how to prepare them from marketed products; indications and contraindications; and the technic for its use in spinal, sacral, venous, ophthalmic, rhinolaryngologic, and dental anesthesia. A number of excellent illustrations add to its value.

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Many have been helped that have had foul and leprous faces, only by washing the same with distilled water of strawberries; the strawberries first put into a close glass, and so purified in horse-dung. (Conrad Gaesner.)

THE ACTION OF DIGITALIS ON THE HEART, CLINICALLY AND EXPERIMENTALLY.*

BY OSCAR A. STIENNON, M. D.,

GREEN BAY.

HISTORICAL.

The fox-glove was first used purely empirically by Wm. Withering an Englishman, with remarkable results in certain cases of Dropsy as early as 1778. The action on the heart was not appreciated until later when it was employed as a heart sedative in aneurisms and in the rapid hearts of infectious fevers particularly pulmonary tuberculosis. From 1783, when Digitalis was admitted into the Scotch Pharmacopeia, until the present century, no drug has been subjected to grosser misuses; there was hardly an ailment from scofula to gout which did not afford an indication for its employment.

The more sane and scientific use of digitalis dates from the renewed investigation of the structure and physiology of the human heart, which began in 1893 with the demonstration of the sino-auricular mode and the auriculo-ventricular bundle by Kent. In 1906 Tawara, summarizing his own work and that of Gaskel, Keith, Flack, His and others, changed our whole conception of the anatomy and function of the human heart. He described a certain definite structure histologically embryonic heart muscle and remnants of the primitive heart, which is responsible for the origination and conduction of impulses to which the auricle and ventricle respond by contracting in normal sequence and rhythm. The impulses originate in the sino-auricular node (Keith's node, remains of the sinus-venosus) at the mouth of the Superior Vena Cava whence they are distributed to the auricles and ventricles through the auriculo-ventricular bundle (Bundle of His, remains of the primitive cardiac tube) which passes down the wall of the right auricle and into the auriculo-ventricular septum and finally ramnifies into the walls and papillary muscles of the right and left ventricles.

By means of Einthoven's electric cardiograph, MacKenzie, Cohn, Cushing, Lewis and numerous other workers have been able to reveal certain cardiac arhythmias resulting from diseased conditions of these structures which cannot be detected by clinical signs. So, too, it has been possible to demonstrate the specific action of digitalis on these various cardiac irregularities.

EFFECTS OF DIGITALIS ON THE VARIOUS HEART STRUCTURES.

The Sino-Auricular Node:

Acting centrally through the vagi nerves, digitalis lessens the number of impulses given off from the sino-auricular node to the auricles and ventricles and in this way affects to decrease the number of cardiac contractions in a given time. The results are exactly the same as produced by stimulation, with a Faradic current, of the distal ends of the severed vagi. The toxic effect of digitalis on the sino-auricular node is the production of alternate quickening and slowing of the heart beat without total quickening and without relation to respiration, a condition referred to as sinus arhythmia or phasic arhythmia.

The Auriculo-Ventricular Bundle:

Digitalis in some way decreases the conductivity of the bundle of His, so that not all of the impulses finding response in the auricles reach the ventricles; i. e., an incipient heart block is established. Incipient heart block will manifest itself in the cardiogram by a mere lengthening of the P-R time interval.

Persistence in the use of digitalis beyond incipient heart block produces certain toxic manifestations which must be guarded against.

(a) *Partial Heart Block:*

Here the auriculo-ventricular interval is not only greatly lengthened but the ventricle may respond only to every second, third or fourth beat of the auricle.

(b) *Coupled Beats:*

Not uncommonly in beginning heart block an impulse that reaches the ventricle is responded to by a second contraction immediately following the first, but unlike it, arising from the intrinsic irritability of the ventricles themselves. Instead of coupled beats we may have triple beats and when these are transmitted to the radial artery, they are referred to as the "pulsus bigeminus" or

*This brief summary was written as a Student Exercise under the direction of the Medical Chief of the Milwaukee County Hospital.

"pulsus trigeminus" as the case may be. These arythmias, however, are rather the combined effects of digitalis upon the bundle of His and cardiac irritability than a mere evidence of heart block.

(c) *Complete Heart Blocks:*

If we have partial or even incipient heart block to begin with, continued use of digitalis will eventually entirely destroy auriculo-ventricular conductivity so that all relation and sequence between auricles and ventricles is lost. Each assumes an independent rhythm relying on its own intrinsic irritability for impulses. At this point we have established complete heart block, with the ventricles contracting thirty or forty times per minute. Complete heart block with an auricular tachycardia that reaches 200-300 is referred to by Jolly and Ritchie as "auricular flutter".

(d) *Retrograde or Reverse Rhythm:*

How complete this auriculo-ventricular dissociation may become is strikingly illustrated in a case of complete heart block treated by Dr. Norris of St. Luke's Hospital, New York, when the heart suddenly assumed a retrograde rhythm. The rate of the auricles dropped from 62 to 55, while that of the ventricles increased from 26 to 54.

The Heart Muscle:

Digitalis improves the tonicity and elasticity of the heart muscle including the papillary muscles so that the ventricles empty themselves more completely at each systole. For this reason it is especially indicated in acute dilation. Cardiac irritability, i. e., susceptibility of heart muscle to stimulus may be increased by digitalis, but this is rather a toxic effect, which reveals itself by the following characteristic arythmias.

(a) *Extra Systole:*

Extra systole at more or less regular intervals arising from over-irritability of the cardiac muscle, a ventricular beat is immediately followed by an abortive or premature systole, which usually is not transmitted to the radial pulse.

(b) If the drug be pushed beyond the limits, the auricles may cease to contract as a whole and assume a wormy fibrillatory activity, which consists of local irregular twitching of individual fibers. This auricular activity has been called "auricular fibrillation," which Jolly and Ritchie believe to be essentially the same as that produced by Faradization of the auricles of a dog's heart. However, when this condition is due to other causes than digitalis bodies, digitalis tends to relieve the arythmia by depressing the conductivity of the bundle of His (I can find no adequate explanation of this fact). MacKenzie claims that auricular fibrillation is the most common cardiac arythmia and that the curative effect of digitalis in such cases is little short of miraculous.

(c) *Paroxysmal Tachycardia and Ventricular Fibrillation* are the terminal toxic effects of digitalis upon cardiac irritability. A number of such cases have been reported from the injudicious use of digitalis in auricular fibrillation, or from a single large dose of digitalis or strophanthus intravenously.

Heart Nutrition:

In slowing the heart, diastole is increased and coronary circulation is improved. In this way digitalis is of use in the nutrition of cardiac muscle. Dr. Hare demonstrated this fact in growing animals by feeding digitalis to young pigs. He found that the pigs to which the digitalis was fed had hearts which were consistently larger than those of the controls.

EFFECTS OF DIGITALIS ON BLOOD PRESSURE.

Gottlieb and Magnus claimed to have increased blood pressure in dogs by arterial constriction but they used amounts fifteen times the therapeutic dose. Cary Egleston, in recent extensive observations of clinical cases, obtained a lowering or no change at all about as often as he got a rise. MacKenzie, Cushney, Sahli, White and Sattler, all agree that therapeutic doses of digitalis have absolutely no appreciable effect upon the vasomotor apparatus, centrally or peripherally.

DIGITALIS IN PNEUMONIA.

The use of digitalis in pneumonia is a debatable question, the weight of authority seeming to be with those who claim that it is contra-indicated. MacKenzie, Gibson, and others see no good in its use, while Ferrier in 1799 used it instead of phlebotomy and Traube in 1850 claimed to slow the heart and lower the blood pressure with digitalis. Recently Cohn and Jamieson claim that digitalis is beneficial in pneumonia, basing their

conclusion on a series of electro-cardiograms on 105 pneumonia cases in the Hospital of Rockefeller Institute; 49 patients received digitalis and 56 did not. Of those who did not receive digitalis treatment, 88% showed no changes in the T wave or P-R interval. Of those who did 77% showed an increase in the P-R interval varying from .02 to .03 seconds.

EFFECTS OF VAGUS ELECTRICAL STIMULATION.

Since digitalis produces in clinical cases essentially the same results as vagus stimulation in the laboratory, it is interesting to note that Cohn and more recently, Robinson, have demonstrated that there is a distinctly different effect produced in the heart between right and left vagus. Working on dogs' hearts in 1913, Robinson first stimulated the auricles and set up auricular fibrillation. He then stimulated the right vagus and the auricular contraction, as a whole, stopped but the auricular fibrillation continued. The ventricles were little affected. The electro-cardiogram closely simulated that of auricular fibrillation. Upon stimulating the left vagus, the auricular tachycardia was little affected, but the ventricles could be slowed to complete asystole. The cardiogram here resembled that of auricular flutter. From this we could conclude that the right vagus is more concerned with the inhibition of the auricles while the left vagus has its greatest effect upon the ventricles.

STANDARDIZATION OF DIGITALIS—CAT UNIT.

A healthy cat of known weight is etherized sufficiently to keep it quiet and 10 c.c. of fresh digitalis infusion is injected into the femoral vein. 1 c.c. is then allowed to run in every two minutes until the heart stops in systole. The amount of digitalis required divided by the kilograms, or weight of the animal, gives the minimum lethal dose of digitalis per kilogram of cat. Using this method, Rountree and Match compared the potency of Wisconsin leaves with those of foreign countries with the following results:

Wisconsin leaves assayed 7.6 c.c. per kilo.
English leaves assayed 9.6 c.c per kilo.
German leaves assayed 19.0 c.c. per kilo.

SUMMARY OF THERAPEUTICS.

1. Digitalis is never indicated unless there are signs of decompensation.

2. Digitalis gives almost specific results in auricular fibrillation.

3. MacKenzie recommends it in acute cardiac dilatation and even in chronic dilatation.

4. In the rapid hearts of acute fevers, e. g. pneumonia, digitalis is of questionable value.

5. In old cardio-sclerosis, where the integrity of the muscle has been lost, digitalis does no good and may even be dangerous.

Bayer and Bridgman of Johns Hopkins have reported a case of sclerosis of heart, in which the use of digitalis increased the P-R interval to 1.03 sec. They concluded that when the bundle of His is diseased complete heart block may result. In cases of arterio-sclerosis or angina pectoris where we have reason to believe the nutrition of the bundle of His is impaired, they claim digitalis should not be given.

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THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars · Single Copies - - - Twenty-five Cents

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 504 Goldsmith Building, Milwaukee

Vol. XVIII. June, 1919 No. 1

EDITORIALS

MEMBERS ATTENTION!

THERE ARE STILL ABOUT THREE HUNDRED MEMBERS OF THE STATE MEDICAL SOCIETY WHO, THROUGH CARELESSNESS OR INDIFFERENCE, HAVE NEGLECTED TO PAY THEIR 1919 DUES.

THIS IS A WARNING TO THESE MEMBERS THAT THEIR MEDICAL DEFENSE PROTECTION IS NOT IN FORCE AND THAT UNDER THE CONSTITUTION AND BY-LAWS THEY STAND SUSPENDED. THEY SHOULD IMMEDIATELY COMMUNICATE WITH THEIR COUNTY SECRETARIES AND TAKE THE NECESSARY STEPS FOR REINSTATEMENT.

MEDICAL VETERANS OF THE WORLD WAR.

APPLICATION blanks for membership in the Medical Veterans of the World War were mailed to discharged officers and selective service workers during the latter part of May. Efforts to organize a Wisconsin branch have received a most gratifying support.

There are, however, many discharged officers and regularly appointed members of selective service boards who have not as yet sent in their application. As this will be the official organization working under the direction of the American Medical Association and the Surgeon General's office, it is desired that all eligible persons should apply for membership at this time.

Wisconsin physicians who failed to return the blanks sent them or who failed to receive one of these should, without delay, write to the secretary of the State Medical Society for information and application blanks.

MENTAL DEFECTS.

THE recent report of Major R. M. Yerkes, U. S. A., in an address before the National Academy of Science on mental defects as disclosed by scientific tests in the army, is startling to say the least and should arouse in the medical profession an interest in the examination of school children, the special care of backward children, and the future care for the feeble-minded.

Major Yerkes' report shows that psychological tests applied between April 27 and November 30, 1918, revealed a total of 45,653 men in the U. S. Army with a ten years' "mental age", in other words, had minds of the average child of less than ten years of age; and a few fell below the mental age of four. During the same seven months, 7,749 men were reported for discharge by psychological examiners because of mental inferiority. The recommendations for assignment to labor battalions because of a low grade of intelligence totaled 9,871, or approximately six per cent of the number of men examined. There were 8,321 organized for assignment to different battalions for observation and preliminary training to discover ways of using the men in the army.

After a preliminary trial in four cantonments, psychological examinations were extended by the War Department to the entire army, excepting only field and general officers. The work was finally organized in 35 army training camps and a grand total of 1,626,000 men had been subjected to the examinations prior to January 1, 1919. Of this number, about 41,000 were commissioned officers.

Unquestionably, one of the greatest lessons the war has taught us is the necessity and practicability of gaging mental capacity in civil life. Attempts to train unfitted individuals for a place they could never fill is an economic loss which can only be corrected by a careful, systematic, and scientific investigation of each individual's mental capacity and adaptability for the work in mind.

LEND A HAND!

THE State Medical Society is not accomplishing its maximum of good without a full and complete membership which includes every eligible and desirable physician in Wisconsin. It is impossible for your state secretary or your county secretary to approach every man who should be within the fold. If you have as your neighbor a non-member qualified for membership, it is your plain duty to call on him, inviting him to your next meeting and urging him to join at this time.

The dues will be pro-rated July first so that new members will be required to pay but one-half of the annual dues for the remainder of the year. Each and every member of the State Society is urged to make every effort to secure a complete membership for 1919.

THE OCTOBER "VICTORY" MEETING.

THOSE of you who attend the annual meetings of the American Medical Association will doubtless agree with the assertion that the scientific exhibits are fully as instructive as the regular program. It appears to your committee that we have enough talent and material here in Wisconsin to get up a creditable scientific exhibit for our forthcoming meeting. Ample space will be furnished upon application. The two medical schools in our state surely could, with a little effort, provide a scientific exhibit that would be highly interesting and instructive to a group of doctors who do not have the time or opportunity to keep themselves well informed in matters pertaining to laboratory technic and newer methods of teaching the medical sciences.

The same might be said of some of our larger hospitals.

Likewise, individuals who have done some meritorious piece of scientific work, or have made some notable contribution to medical, surgical, or laboratory technic, are invited to communicate with the undersigned with a view to making an individual exhibit. Let us make it the big "side show" of the meeting.

Respectfully yours,

CHESTER M. ECHOLS,
Chm. Arrangements Committee.

THE COMMANDMENTS GOVERNING THE RELATIONS OF THE PUBLIC WITH THE DOCTOR.

THE medical society of Frankfort has elaborated ten commandments or rules to govern the relations of the public to the doctor. These rules have been printed and the doctors are asked to distribute them among their patients and to post them in their waiting rooms. The rules are as follows:

1. Do not call the doctor unnecessarily for trivial illness, and do not wait too long in the case of serious illness or until the illness has reached such a stage of severity that it is imperative to call the doctor. Much valuable time may be lost by delay in securing medical assistance.

2. If your condition permits, consult the doctor during his office hours and do not ask him to come to you. Some examinations can be made only in the doctor's office, where certain instruments which cannot easily be transported are kept.

3. If you have decided that you will call the doctor, inform him to that effect before he leaves his home to make his calls; that is, before 9 o'clock in the morning. The doctor must lay his plans for the day's work ahead of time, and if you wish to assure yourself of an early visit, send in an early call.

4. Do not ask the doctor to call at a certain hour, but leave the time for making a visit to him, if your case is not urgent or not an emergency case which demands an immediate response to your call. The doctor is never master of his time, and it is very difficult for him to make a visit at a certain time. The business man should not expect his doctor to time his call at the noon hour when the former can leave his business and be at home. If he cannot consult the doctor during office hours, he should go home and remain there until the doctor can come to see him.

5. Do not ask the doctor to come immediately when it is not necessary. Such a visit, being an emergency visit, is combined with great inconvenience and loss of much time, as it interferes with other work. At the same time, other patients who should be visited first are slighted thereby.

6. Never call the doctor at night except in an emergency case. The doctor is human, and like every other man must have his rest. A tired, worried and overworked doctor, one who is frequently disturbed in his sleep, naturally cannot render such efficient service to his patient as he could if his rest were not broken so much.

7. On Sunday the doctor should be allowed to rest. No demand should be made on his time, except when his services are absolutely needed.

8. If a doctor is needed to answer an emergency call, please do not notify more than one man at the same time. If, in the confusion of the moment, more than one doctor has been called, countermand multiple calls as soon as possible.

9. When the doctor is expected, please have everything ready for him so that time will not be lost. Above all things, do not expect the doctor to wait to see you, but have your room and yourself in readiness to receive him. Have water, soap and towel in readiness for him, likewise pen and ink and anything else that might be needed by him, to avoid delay.

10. Do not detain the doctor unnecessarily during his office hours. Other patients are waiting to see him, each in his turn, and lost time may be a valuable item for them. Furthermore, other patients are awaiting the doctor at their homes. Female patients should be prepared to submit to any examination with as little loss of time as possible, and be so dressed that they can leave the office quickly and without the assistance of a maid. —*Jour A. M. A.*

THE JOURNAL CLINIC

Edited by
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and
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(Address all communications direct to the editors)

FROM THE CLINIC OF THE MILWAUKEE COUNTY HOSPITAL.

L. M. WARFIELD.

CASE 1. On May 6, 1919, a married woman, 38 years old was seen in consultation complaining of rheumatism. Two of her brothers have rheumatism. There is no history in the parents. She has never been a strong woman. As a girl she had the usual children's diseases. About ten years ago she had pneumonia followed by pus in the chest which was aspirated. She was then diagnosed tuberculosis and a grave prognosis was given. About six years ago she had some trouble with her left great toe. A physician removed the sesamoid bones. Following this she had rheumatism in the toe and in both knees. Since then she has been progressively worse. The ankles and knees have been subject to repeated attacks of pain and swelling. There has been stiffness of the shoulders, elbows, wrists and finger joints. About three years ago at the Mayo Clinic she had her tonsils removed. Since then she had had teeth pulled, sinsuses scraped and a turbinate removed. None of these measures helped her.

She has no children, has never been pregnant. Menstruation is usually regular. Appetite fair, bowels inclined to constipation. Urination is normal.

Last fall she had a sharp attack of influenza from which she never seems to have recovered completely. Previous to this, she was getting around on a crutch. She has been bed ridden for several months; has lost weight and strength and almost any movement, active or passive, gives her pain. The disease has been called arthritis deformans, infectious arthritis, rheumatoid arthritis.

She was found lying on her back in bed; a pale, thin woman, unable to turn her head because of stiffness of neck. With difficulty she withdrew her hand from the bed clothes to show it. The knees were partially flexed and supported on a pillow. She could not straighten her legs. Attention at once was directed to the fact that neither wrist was swollen; the fingers were straight and on the terminal joint of the right index finger there was swelling and redness more pronounced on the radial size. Examination of the knees revealed some swelling; no heat, almost complete fixation of the joints in semi-flexion. Both feet were swollen, the right more so, both ankle joints were swollen, also the right more so, and the great toe of the right foot was red and hot and swollen particularly at the tarso-metatarsal joint. On the inner edge of the helix of the left ear was a whitish nodule about 2 m.m. in diameter. The chest seemed negative (an X-ray taken a year ago had shown normal lungs), except for roughened breathing in both apices. Pupils normal, tongue coated, heart rapid, no murmurs,

abdomen rather tense but nothing abnormal was made out. The spine was rigid and the head could not be turned to either side. There was slight fever due evidently to inflammation in the right great toe. The urine was not examined. It was reported by the attending physician to be normal. No opportunity was given to examine the blood chemically.

DISCUSSION.

This history and examination tells a clear but sad story. That the diagnosis is gout admits of no question. That it happened to be a bit irregular in its early manifestations and to be of the polyarthritic form is not so unusual. She had been diagnosed rheumatism. Some thought she had infectious arthritis and in attempting to locate the focus of infection she was systematically butchered by various specialists to whom she was referred.

We really should get away from the all embracing diagnostic scrap basket, rheumatism. It is so easy to say but it acknowledges mental apathy on our part.

Now, this woman had no sign of real chronic infectious arthritis. The hands and fingers were in line, there was no ulnar deflection of the hand, no swelling of the carpus, no claw hand, no atrophy of the interossei muscles, while the knees were stiff there was not the shiny skin full of dilated venules stretched over the knee as is usually seen in infectious arthritis. There was not the atrophy above and below the knees making the knee joints appear even more swollen than actually swollen. The feet were not in the equino-varus position with crumpled toes. On the contrary, there was a tophus in one ear. There was an inflammed tophus on one finger. There was swollen and inflamed tarso-metatarsal joint. Suppose all the other joints were stiff and sore, is there not enough here for the diagnosis of gout? The differentiation is important. Arthritis (infectious) as its very name implies is dependent upon infection. This we have learned may be in tonsils, sinuses, apical root abscesses of the teeth, possibly the gall bladder, appendix, intestine, prostate gland. Gout on the contrary, is a disease of metabolism depending, so we now think, on the insufficient metabolism of the purin bases (xanthin, hypoxanthin, guanin, etc.) which are found in the proteins of red meats, liver, pancreas, brain, and the flesh of certain fish. The treatment, therefore, is absolutely opposite. Remove the foci of infection in the arthritis and there is no restriction in diet. No amount of removal of supposed foci of infection helps the gouty, but the diet must be entirely free from foods containing the purin-base radicals. Let us remember that the comprehensive term rheumatism is no diagnosis and has no scientific meaning unless qualified by some term giving it definiteness, for example, muscular rheumatism, chronic articular rheumatism. The tendency is to get away from the word altogether. What the English called rheumatoid arthritis, and we used to call arthritis deformans, is now almost always the result of infection and hence is best known as chronic infectious arthritis.

This particular case may not have come to her present condition had she been accurately diagnosed and properly treated.

Qui sait?

Case 2. A white woman, 61 years old, widow, Polish, was seen April 18, 1919, complaining of sciatica. The history was indefinite. She had never been ill before except for her several pregnancies. Her youngest child was 19 years old. She stated that since about Christmas 1918 she had pain in her left hip and down the left leg. (It was learned later that the neighbors had noticed that she had been walking with a slight limp several months before December and that in conversation with them she had complained of pain. Her own family knew nothing of this.) She had been in bed since early in January although she would get up and limp to the toilet. She had noticed a slight lump about March in the inside of the upper left thigh. Several physicians who had seen her had diagnosed sciatica and had poulticed or given electrical treatments. For the past two weeks she had constant deep pain much worse at night with chills and sweats daily.

On examination she was a large well nourished woman, somewhat pale, no evidence of suffering seen in her face. The skin was clammy, the pulse 120 per minute, heart sounds clear. There was no limitation of movement in any joint. The upper left thigh was distinctly swollen, particularly in the inner side just below the groin. The skin over this area was reddened, tense, hot, and the tissues for a considerable area were boardlike. At one point there was definite fluctuation. She was removed at once to hospital. A leucocyte count showed 15,000 cells. An X-ray showed haziness of the upper fourth of the femur with irregularity of the line of the shaft on the inner side. Osteomyelitis and tumor were considered and the former thought more probable in view of the history we then had; the sweats, chills, rapid pulse and fluctuating tumor. Incision into the central soft part revealed broken down grumous material surrounded by a large, hard, pearly tumor mass. The diagnosis at once was made of osteosarcoma, the wound closed, and the family told that amputation at the hip joint was the only procedure. This was consented to.

The leg was amputated on April 21st. The patient was not a good operative risk. The pulse before anaesthesia was 120. After the operation it was 140. The shock was too great and she died April 22, 1919.

Dissection of the leg revealed a large tumor occupying the inner and upper third of the thigh. It extended up to the groin, the muscles as far as the mid-thigh were infiltrated. The outer half of the leg was not involved. Cross section of the femur revealed normal marrow and normal shaft except the inner third. Here the bone was somewhat more porous, the periosteum lost, and the bone roughened. The tumor was firm, cut like soft cartilage. Section was of a pearly appearance with a very finely granular surface. The muscle surrounding it was edematous and congested. Processes of the tumor could be seen extending between the muscle bundles. The glands in the groin were not enlarged. The gross pathological diagnosis was periosteal sarcoma.

DISCUSSION.

Sciatica at the present time is rarely a diagnosis. Headache or fever would be equally accurate. The point is that sciatica is almost invariably a symptom. The essential thing is to find the cause, remove it, if possible, and the symptom clears up of itself.

We were not absolutely correct in our diagnosis at first. The history, so important in any diagnosis, was most misleading. While we recognized the two possibilities, osteomyelitis and tumor, there were more factors in favor of the former. Had we been able to obtain the history of pain in the leg last Fall, we probably would not have been mislead even in the face of the septic picture.

That both osteomyelitis and tumor may occur without previous injury is a point to be borne in mind. Complaint of pain along the sciatic nerve should lead to examination of the lumbar muscles, the sacro-iliac joints, pelvic examination, vaginal or rectal, or both in women. Careful inspection of the groins and the legs and finally examination of the feet for broken arches. We will not go so far as to deny that unilateral inflammation of the sciatic nerve never occurs but we feel that the disease is unusual. All circulating poisons, be they metallic, bacterial, chemical (alcohol) or syphilitic (tabes) almost invariably attack both sides. Be wary of the diagnosis of sciatica even though it conforms to the classical symptoms in a text book of the vintage of 1900, or thereabouts. We have learned much since then.

Case 3. An attendant at the Hospital for the Chronic Insane, aged 20 years, was brought to the Milwaukee County Hospital in a semiconscious state.

The history was obtained from her mother. There was nothing of importance in the family history.

She has always enjoyed fair health. Had measles at the age of 4 years and an attack of appendicitis at the age of eighteen years but was not operated upon until Aug. 8, 1918, for this and dysmenorrhea. Is subject to frequent headaches. Appetite has always been good and bowels regular.

About two weeks prior to entering the hospital she complained of severe frontal headaches and general weakness, followed shortly thereafter with a chill and temperature of 102, and also backaches. This was associated with irritability of the stomach. The temperature and pulse remained high for four or five days when both dropped to normal, the headache left and patient left much better and could eat heartily. Her only complaint now was that of extreme weakness. After a few days of what seemed to be favorable to patient's complete recovery, she came down with a severe headache, increased respirations, pulse of 120 and temperature of 102. Physical findings were those of pneumonia. During this period there was considerable delirium. On the third day the temperature dropped, pulse returned to normal and respirations assumed their usual rate. Patient became conscious and took notice of things about her and asked for eatables. Bowels were kept moving and urination was free. The day before entering the hospital, the temperature rose slightly (99-101) and patient became stuporous.

On examination she was lying quietly in bed on her back with closed eyes, not responsive to questions. The pupils were widely dilated but irregular and did not react. There was no response on the part of the patient to stimuli except those of pain. There was no rigidity of the neck. Kernig, Oppenheim and Chaddock positive with negative Babinski and ankle clonus. Knee jerks exaggerated. Chest findings were absolutely negative upon entrance to the hospital.

Spinal puncture was at once done and 55 c.c. of clear, very pale yellow fluid removed under pressure. This showed a few lympocytes, globulin positive, cell count of 50, negative to tubercle bacilli and other organisms. The leucocytes were 13,000.

Urine Examination: sp. gr. 1014, acid reaction. Albumin ++. Few leucocytes.

Proctoclysis of 15% glucose and 5% sodium bicarbonate was started.

4/10/19—As patient was unable to retain the proctocylsis, hypodermoclysis was begun.

In the early part of the forenoon, a profuse, frothy, nasal discharge was noticed. A swab was taken and sent to the laboratory which reported as follows:

Few gram positive streptococci,
Few gram positive diplococci,
Gram negative Micrococcus Catarrhalis,
Few pus cells.

Urine examination showed a cloudy specimen with a specific gravity of 1014, albumin ++, acid reaction, few pus cells, diplococci and numerous long and short bacilli —spore bearing (putrefactive bacteria).

The spinal fluid removed yesterday, upon standing 24

hours, showed a small amount of sediment and a small pellicle. Examination showed tubercle bacilli, negative to other organisms, few lymphocytes, negative culture, and negative Wassermann on 1 c.c. of fluid.

Patient gradually sank and died at 11:35 a. m.

Laboratory Report.

4/9/19.

Smears from nose—
Streptococci—Gram, positive.
Diplococci—Gram, positive.
Micrococcus catarrhalis—Gram, negative.

24 hour culture from nose—
Staphylococcus aureous.
Few streptococci.

Spinal fluid.

Smears from sediment and small pellicle.
Postive to t. b.
Negative to other organisms.
Few lymphocytes.
Globulin +

Cell count 50.

Wassermann report—
.2 c.c. negative.
1 c.c. 80% hemolysis.

Four day culture from spinal fluid, results negative.

Autopsy No. 1137 (head).

Permission was obtained to open the head. This was done four hours after death.

The body of a fairly well nourished and developed young adult female; 155 cm. in length. Pupils equal, .7 cm. in dia. Rigor mortis and post mortem levidity moderate.

On removing the skull the brain entirely fills the cerebral cavity. The dura is congested and weeps blood. There is also considerable edema of the pia arachnoid and pia mater.

The upper surface of the brain is covered with serofibrinous exudate, and the vessels are markedly congested, the convolutions are somewhat flattened and the cortex is noticeably swollen and edematous. On section the brain substance shows some congestion and petechial hemorrhages, especially near the vessels.

At the base of the brain are noted collections of serous exudate particularly in the anterior and posterior perforated spaces. Near the beginning of the fissure of Sylvius, near the base of the brain and along the middle cerebral artery are small pin point and pin head sized nodules (tubercles) grayish white in color.

The medulla was somewhat congested but otherwise showed nothing abnormal. Smears from the exudate at base of brain showed numerous tubercle bacilli.

DISCUSSION.

When this girl was admitted in the comatose state and it was told us that she had had influenza followed by pneumonia from which she had recovered, we thought that we were dealing with a case of encephalitis lethargica. The full history was obtained from her relatives after death. An analysis of her history shows a most acute process. Possibly her initial illness was influenza but in the light of what we now know, it was probably the onset of meningitis. Then followed a three day pneumonia. Again suspicion is of influenza, yet the abrupt illness may not have been pneumonia. The physical signs may have been wrongly interpreted.

The whole picture is not incompatible with the course of tuberculous meningitis from its beginning two weeks before she was seen by us. Here the lumbar puncture settled the diagnosis which was confirmed by the autopsy.

Usually the spinal fluid in tuberculous meningitis is very slightly cloudy, when a test tube full is held to the light there is an opalescence to the fluid. The cells are usually in considerable numbers, several hundreds per cu.m.m. When the fluid is allowed to stand for a few hours a delicate filmy clot forms as a string from surface to bottom of tube. In this clot all the tubercle bacilli are usually caught. This should be picked out, dried on a slide and stained. The cells of the fluid are mostly lymphocytes. Occassionally the fluid is perfectly clear or slightly yellow (as in this case) or even slightly purulent. We had one proved case in which 95 per cent of the cells of the spinal fluid were polynuclears.

The diagnosis was not difficult in this case. However, there are cases where the repeated examination of the spinal fluid fails to reveal tubercle baccilli and no other organisms can be found. Should there be no autopsy the diagnosis is not positively made. However, one may suspect tuberculous meningitis.

CASE 4. Jennie Maras, 22 mos. old, admitted Feb. 1, 1919, with the diagnosis of malnutrition. No history was obtained. She was an under-nourished baby, square head with frontal prominences, enlarged adenoids and tonsils, rickety rosary and enlargement of epiphyseal ends of the long bones. The lungs were clear; the heart rapid but otherwise normal. The abdomen was protuberant and the liver was slightly enlarged. The evident diagnosis was rickets and she was treated accordingly. For about three weeks she picked up rapidly both in weight and in general appearance. She then began to show an irregular fever and signs of drowsiness, where formerly she had been playful she was now content to lie quietly in the bed. The somnolence gradually increased so that she was aroused with difficulty to be fed. On Feb. 22, she was vaccinated successfully. On Mar. 9 she seemed very ill. She had begun to vomit

her food, the temperature was still irregular but not higher than 101° F. At this time there was slight rigidity of the neck and a leucocytosis of 16,000. Meningitis of some form was suspected and spinal puncture was performed. Twenty-five c.c. of a clear fluid were obtained under some pressure. The cell count was 120 per cu.m.m. Globulin was present, no organisms were found after long search. The Wassermann reaction on one c.c. was +++. She became brighter after the puncture. The eye grounds were examined and found to be normal. Pupils were dilated and did not react to light. On the 16th spinal puncture was repeated, 30 c.c. were withdrawn, the spinal meninges washed out with 2% solution of sodium bicarbonate and she was given gray powder, .12 gm. every four hours. Again on the 19th spinal puncture was performed and 30 c.c. of turbid, yellowish fluid were removed. She was rapidly growing worse, the temperature was gradually rising up to 105°, respirations became rapid and shallow, and she died on Mar. 20, 1919. No autopsy was permitted.

DISCUSSION.

Here was a case which to all appearances was one of ordinary rickets. The improvement was wonderful and we had every reason to believe that she would recover. We had no suspicion of syphilis, there was nothing to suggest it in the face of typical rickets. When she began to show signs of meningitis, I thought it most probable that she had the tuberculous form as that is the form common in children who are rickety and come from unhygienic surroundings. The spinal fluid, however, was not like that of tuberculous menigitis. It was crystal clear on first puncture instead of having the faint opalescence commonly seen in the fluid from tuberculous meningitis. It was a surprise when the laboratory reported a positive complement fixation for syphilis. The process evidently was very acute and of the exudative basal type with small gummata and exudate around them. The gross appearance of such lesions at autopsy is very much like those of tuberculous basal meningitis. Both syphilis and tuberculosis attack the base of the brain. It is rare to find the lesions on the convexity as in epidemic cerebro-spinal meningitis. Both, too, tend to invade the fissures of Sylvius and produce exudate, gummata or tubercles in the pia or on the arteries.

This case demonstrates the value of the Wassermann reaction in the spinal fluid when no bacteria which could be etiological factors are found. Possibly there are many cases which go unrecognized and untreated properly because syphilis is not suspected and the fluid is not specifically examined.

MEDICAL MOBILIZATION AND THE WAR

THE WORK OF RED CROSS ORGANIZATIONS IN RELATION TO THE PREVENTIVE MEDICINE OF THE FUTURE.

BY SIR ARTHUR NEWSHOLME, K. C. B., M. D.

(An address delivered at American Red Cross Headquarters, Washington, D. C., May 2, 1919.)

It is difficult to give, as I am invited to do, in brief space and without the detailed reports of proceedings in which I took part, a clear conception of the conclusions reached at the extremely important International Conference of Red Cross Societies which was held in Cannes during April of this year.

I shall endeavor, however, to state the conception which gave rise to the conference and to give some of the conclusions reached by the experts in a number of departments of medicine on which are being based the initial steps for the organization of a new departure in Red Cross work.

It is unnecessary to remind actual Red Cross workers of the vast amount of beneficent work, rendered possible by the gifts of possibly half the American population, which has been carried out by your agencies in the various belligerent countries. The record of saving life, of alleviation of suffering, and in other instances of prevention of greater suffering, is one calling for gratitude and congratulation. This work has been rendered possible by an unrivalled combination of trained and of relatively untrained workers. The trained workers were indispensable; but without the invaluable assistance of intelligent, previously untrained, voluntary workers, a vast mass of suffering would have been left unalleviated and unrelieved.

This work in the main has been directed toward the healing of the sick and wounded, but not entirely so; for most interesting and valuable work has been done among the civilian population of the belligerent countries, in providing medical assistance, in special work for the treatment of tuberculosis, in securing medical assistance and advice for mothers and their children, and in caring for those who have been rendered homeless by ruthless war. In America, also, Dr. Clark informs me, that around military camps in States in which public health administration is imperfect, an organization has been evolved, through cooperation between the Central Public Health Service and the American Red Cross, by means of which territories about camps have been "cleaned up", the risks of malaria and other communicable diseases, including venereal diseases, have been minimized, a good milk supply assured, and elementary sanitation established. It is evident therefore, that already the Red Cross, when local sanitary arrangements

were imperfect or in abeyance, has taken upon itself the burden of the emergency preventive measures as well as of measures of relief.

In so doing it has acted wisely. Preventive work is always more productive in results than relief work. It is also more economical. It is wiser as well as more humane to erect a parapet along the top of a dangerous cliff than to provide an ambulance at its base.

I do not, however, wish to give countenance to the notion that prevention and treatment of disease must be regarded in antithesis. The two are parts of a whole and not distinct and separate. This may be illustrated by two of the most serious diseases to which humanity is subject, tuberculosis and syphilis. Of these, tuberculosis is probably the chief producer of dependent widows and orphans; while syphilis, on the authority of Sir William Osler, must be regarded as third among the killing diseases. For the prevention of both of these diseases treatment forms an indispensable preventive measure. Every arrangement conducting to the comfort or recovery of the tuberculosis patient diminishes the risk of massive infection in his family; and the prompt treatment of syphilis by arseno-bensol preparations is the most effective means for securing his immediate disinfection as well as his progress toward cure. And even when the elementary personal infection is absent, it can be argued with justice that the prompt and efficient medical treatment and nursing of the sick not only diminishes the duration of individual disability, but prevents the impoverishment and enfeeblement of other members of the same family.

But for an increasing proportion of the total sickness of humanity, total prevention is now possible, and I need scarcely cite the almost complete disappearance of typhus in western nations in peace time, the rapid decline of enteric fever, and the improvement in regard to a large number of other diseases. The number of preventible diseases is being steadily increased, as investigation progresses, and as our knowledge of the already ascertained laws of health increases and becomes disseminated among the general population.

It was, therefore, a happy inspiration of Mr. Davison, the President of the American Red Cross, which led to his calling together the international conference of Red Cross Societies at Cannes, with a view to considering means by which the worldwide activities of Red Cross workers might be utilized for the prevention of illness as well as for the treatment of sick and wounded mankind. It is a vision of the future, which I think, will have a great influence on the welfare of mankind, if, as I am confident will be the case—the conception fires the souls of the multitude of Red Cross workers and contributors in every civilized country, and leads them to determine against demobilization of their forces, and to continue their beneficent activities against the horrors of peace, which, in the aggregate, are even more serious to mankind than those of war.

The statement that the devastations produced by disease in times of peace are even greater than the loss of life from war, may be illustrated by the experience of England and Wales. In the four years, 1911-14, immediately preceding the World War, 2,036,466 persons died in England and Wales, while, according to official figures, the total loss of men during the 4¼ years of war, was 835,743, including 161,800 presumed dead. The war figures give the entire loss for the British Empire; but it cannot be far from the truth to state that war on the gigantic scale of the war from which we have just emerged has killed in Great Britain about one-third as many as have died in the civilian population in a corresponding period. I do not lose sight of the fact that a large proportion of the civilian deaths occur in ripe old age, and that 28% of the total civilian deaths occur among the children under 5, while those destroyed by war are adults and the most virile of our race. But the greater part of the deaths in childhood, as well as in adult life, before old age is reached, are preventible; and in the future will be prevented, given adequate research, intelligent and unsparing application of knowledge already in our possession, and an avoidance of the public parsimony which in relation to public health constitutes the most serious form of extravagance. That is the ideal which Mr. Davison and his collaborators place before us; and it was to devise plans to this end and to enlist the continued cooperation of all Red Cross workers that the conference was called at Cannes.

The Conference held a number of general meetings in which the general policy to be pursued was discussed and then divided itself into sections dealing with the following subjects: preventive medicine, child welfare, tuberculosis, malaria, venereal diseases, nursing, information and statistics. These sections were not selected as covering the entire ground of preventive medicine, but as forming branches of work in which early investigation and action appeared to be most desirable.

But first of all the lines of general policy were discussed.

It is evident that although measures for the prevention of disease constitute a definite governmental function—neglect of which is treason to the communal welfare—even in the more advanced countries our governing bodies have not lived up to their potentialities. In scarcely a single sphere of its work can it be said of any government or of any local authority, that what could be done to prevent disease and to avoid human suffering has been completely accomplished. To say this is merely to express the imperfections of humanity, singly or the greater imperfections of Committees and Councils entrusted with the public purse and the public weal.

There is, and I think always will be, ample scope for supplementation of official work by voluntary workers, for the experimentation in new and promising work which it is so difficult to initiate in official circles, and for the undertaking of necessary work by devoted volunteers when public opinion and officialdom refuse to undertake it.

This disposes of the argument that Red Cross activities in the prevention of disease merely prevent the development of official work. The true object of all voluntary workers is to stimulate official public health work, and when in any sphere the latter is fully developed to welcome the disappearance or reduction of

voluntary non-official work, or seek the new means of social help which are always waiting for devoted workers to initiate.

The conference agreed that the new work of the Red Cross would naturally divide itself into two parts: an International Bureau, and National Organizations. The duties of these and their relation to each other will be more clearly seen in the light of experience. The International Bureau in the scheme proposed for the consideration of the Conference—which received general approval—would act as a great centre for collecting information on various public health subjects, and for digesting it and subsequently distributing it by means of special publications, or periodical journals, or on application from those requiring specialized information. It would also act as a means of educating the general public on urgent problems affecting its welfare; and it would be utilized as a centre, organizing in less favored communities, missions which would undertake local investigations and remedial work. These surveys and activities would be intended rather as demonstration centres than as permanent organizations, the intention being to withdraw them as soon as the necessary work could be carried on by local Red Cross or other organizations.

It was suggested that the central bureau should comprise a number of branches dealing with epidemic diseases, tuberculosis, venereal diseases, child welfare, nursing, and other subjects, collating and analyzing information and distributing it through the medium of the National Red Cross of each country.

Such a central bureau, it will, I think, be agreed, will be of the greatest value to all social and public health workers, while not clashing with any existent agency.

The proposed organization of Red Cross agencies for preventive work has already received an imprimatur in the draft league of peace; and it would be appropriate that its headquarters should be near if not side by side with the future home of that league. If it receives the full development for which we hope, it will form, perhaps, a chief instrument in securing peace and continued happiness for mankind.

The relation of the central bureau to National Red Cross societies will be one of mutual co-operation. The central bureau will provide information and facilities for national work; the actual work will need to be carried out in each country nationally and in the main from funds supplied by that country.

It is not intended that the National Red Cross shall undertake, much less compete with, work already being carried out either by local authorities or by existing voluntary associations. If, for instance there is a society concerning itself with child-welfare, or the prevention of tuberculosis, or of venereal diseases, the National Red Cross would naturally give such assistance as it could through its voluntary workers in this special work, while leaving untouched existing arrangements. If no such societies existed the National Red Cross might advantageously assist in their formation, retiring as soon as the separate organization was working.

In countries in which official and existant voluntary agencies scarcely exist more active and continued direct work of the Red Cross organization will be called for; in such countries assistance may be needed from the central international bureau.

Evidently there are many points of central and national administration requiring and now receiving fuller and more detailed consideration; and all that need now be said is that it appears to me certain that International and National Red Cross organizations which will concern themselves with the prevention of disease as well as with the relief of suffering will be formed, and that they will have pregnant influence in hastening the reduction of human disease.

The second week's deliberations of the conference at Cannes were filled with meetings of Committees of experts and more formal sectional meetings, at which lines of policy on certain specific subjects were formulated for the later deliberations of Red Cross Societies in Geneva.

It is unnecessary to summarize in detail the scientific recommendations reached in various subjects. It may suffice, as indicating the wide scope of the field of work about to be surveyed, that among the more urgent problems of preventive medicine priority was given to advocary of combined efforts for the prevention of the major pests of mankind, of the provision of laboratory assistance in the diagnosis of disease, and in securing more accurate vital statistics and improvements in public health legislation.

In child welfare work, the importance of health visiting, of child welfare centers, of an improved midwifery service, and of continuous observation of children under school age as well as scholars was emphasized.

In regard to tuberculosis stress was laid on the essential point that measures against this disease must embrace the whole of the sick lifetime of the patient, and must include when necessary, measures for obviating the results arising from the fact that the partially recovered patient commonly is unable to earn an economic wage.

In the prevention of venereal diseases a similarly wide outlook was advocated, including the necessary social and moral as well as medical measures against their spread.

In the preceding brief statement I have endeavored to indicate the main outlines of the proposals considered by the Cannes Conference. My statements are merely those of a participator in the Conference; and it is evident that outside of the momentous decision to endeavor to retain mobilized the forces of Red Cross organizations and to secure their assistance in the great impending struggle against disease, no final decisions have been made. The growth of the central and of each National organization in the desired direction must necessarily occupy time, though I believe development will be rapid, once the great ideal is visualized clearly by Red Cross workers in each country.

I have referred in an earlier part of these remarks to the imperfections of governments, central and local, in the control of disease. These imperfections indicate one of the most promising fields in which voluntary agencies, like the Red Cross, can assist toward greater

efficiency. Both local and central authorities are elected by the people themselves and the laws and regulations for the promotion of the public health—and what is even more important, the enforcement of existing regulations—depend for their efficiency on public opinion which we can all assist in forming. The natural tendency on the part of the social enthusiast who has been disappointed in his efforts at reform, is either to retire from the fight or to organize a voluntary organization having the same end in view. This last may sometimes be the best line to pursue, though in that case endeavor should be made to secure friendly relationship with, if not also the active co-operation of, the local authority. But often the most hopeful plan is to fight the local elections and to secure the election on local governing bodies of men and women who will give these bodies no peace until the necessary reforms are secured.

If we are to be helpful we must be kindly and charitable in our criticism of local authorities. Nothing has made it so difficult to secure good men and women to undertake the burden of local government as the indiscriminating and uncharitable criticism aimed at those engaged in it. Criticism of members of our central and local governing bodies is not seldom deserved; but critics are too often those who will give no assistance in the work which, with insufficient knowledge, they vilify. When we hear of scandals in administration, let us have sense of proportion, remembering the grosser corruption evidenced for instance in Pepys' Diary and especially remembering that the best way to remove corruption is by ourselves taking a part in the work of central or local government, or by steadily upholding those who are doing so with integrity.

The onlooker, whether it be on voluntary or on official work for the commercial good, has his duty to perform as well as the worker. It is his duty to make himself acquainted with local conditions and with local administration, even though he takes no part in it. A chief need at the present time is an interested study by every adult of all the phases of local administration in each district; and in my view Red Cross organizations will be rendering inestimable service to the community if they succeed in educating the public conscience to this effect. Increased local patriotism is urgently needed if the prospective fight against disease by the Red Cross Societies is to succeed, and if the further triumphs of preventive medicine within our reach are to be secured. To this end enthusiasm will need to be infused into official public health administration as well as into the work of voluntary agencies; and it is only by developing all the possibilities of our governing bodies as well as of voluntary societies and by securing the closest co-operation between the two that the new ideal of the Red Cross organization can be realized.

WAR NOTES

The members of the Rotary Club, Milwaukee, the organization which strongly backed Milwaukee Base Hospital 22, gave a fitting welcome home to them recently when the club staged a banquet, reception, and entertainment in the Milwaukee Athletic club rooms.

Major C. W. Watkins of Oconto, attached to the 127th infantry, was awarded the Croix de Guerre with palm by the French military commander on March 18.

Colonel Nelson M. Black arrived in Milwaukee May eighth after an absence of several months spent in Europe on various battle fronts as a consulting surgeon of the American army.

Captain G. W. Harrison, Ashland, still convalescent at Ft. Sheridan, has been appointed health commissioner of Ashland by a newly elected mayor.

Dr. W. E. Buckley of Hartford returned home May 15, having just received his discharge. Dr. Buckley reached France July 2 and went up to the front lines with Field Hospital 161 of the First Army Corps.

Dr. Albert Tormey of Madison, who recently returned from France where he served a year with base hospital 11, left for Chicago recently where he will remain as interne for six months, under Dr. A. J. Ochsner, at the St. Augustine Hospital. He will then return to Madison and engage in business with his brother, Dr. T. W. Tormey.

Major G. L. Bellis has just returned from two years' service overseas where he was in charge of work pertaining to the treatment of tuberculosis. Dr. Bellis will again resume his duties as superintendent of the Muirdale Sanitarium, Wauwatosa.

Dr. I. E. Schiek, who recently arrived home in Rhinelander from service in France, has resumed his professional practice.

Dr. R. F. Fisher of Baraboo has returned home from France.

Dr. Benjamin Fosse of Beloit has been promoted to the rank of major in France, after fourteen months of service. After arriving in France, he was for six months chief of the surgical section of Red Cross hospital number 1, after which he was commander of Red Cross hospital number 103 in Paris.

Captain J. C. Elsom of the department of physical education of the University has returned to his duties there.

Major C. J. Kenney, who was awarded the Croix de Guerre, landed in Boston recently with the 121st Artillery.

Dr. H. E. Luehrs, formerly practicing physician at Hilbert, but for some time a resident of Mathias, Texas, intends leaving for South America where he will be at the head of a large hospital. The doctor served overseas and just returned to Texas a short time ago.

Dr. S. A. McCorkle of West Allis who returned recently from army service has resumed his medical practice which he gave up in 1918 to take up war work and is again promoting public welfare work.

A letter received by Dr. C. W. Voorus of Beaver Dam from his son, Lieutenant L. O. Voorus, stationed at Waco, Texas, states that he has been transferred to San Antonio for duty at Fort Sam Houston.

Captain J. R. Eastman of Kenosha has recently received a promotion to the rank of major. He is stationed at Chaumont, France, and is attached to General Pershing's headquarters.

Lt. Colonel J. W. Frew returned to Milwaukee May 10, after twenty months' service with the Rainbow division. Soon after arriving in France, Lieut. Colonel Frew was sent to the headquarters of the Fourth Army Corps as chief of transportation and hospitalization and while there was decorated with the Croix de Guerre with palm.

Captain E. L. Braun of Milwaukee, physician at the Good Samaritan Hospital, is home from overseas. He joined Base Hospital 83 (Camp Pike unit) last August but was later sent to a camp hospital in the Argonne.

Dr. T. J. Snodgrass returned to Janesville after several months' service in France.

Dr. T. C. Clarke is home from military service, having received his honorable discharge at Fort Sheridan. He will resume the practice of medicine in Oconto and is contemplating reopening the Oconto Hospital.

Dr. Carl O. Schaefer, Racine, has received his honorable discharge from the army, after 16 months in the service, and has returned to his home. For eight months he was in France on the surgical staff of American Red Cross Hospital No. 1 in Paris. Since his return to this country last February, he has been at the U. S. general hospital No. 28, Fort Sheridan. After a brief rest, Dr. Schaefer will resume his private practice in Racine.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY.

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Godfrey, R. C., Lancaster.
Brook, J. J., Milwaukee.
Dreyer, R. A., Wheeler.
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Wilkowski, C. W., Chippewa Falls.
Law, W. G., Glidden.
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Maercklein, A. G., Exeland.
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Pomainville, F. X., Grand Rapids.
Cary, F., Greenbush.
Fowler, J. H., Lancaster.
Braun, E. L., Milwaukee.
Black, N. M., Milwaukee.
Kampmeier, A. J., Milwaukee.
Segal, G. M., Milwaukee.
Yaffe, A., Milwaukee.
Ludden, H. D., Mineral Point.
Breeden, R. F., Richland Center.
Foat, J. S., Ripon.
Barrett, E. J., Sheboygan.
Fuller, C. O., Stratford.
Cutler, J. S., Wauwatosa.

ORDERS TO OFFICERS OF THE MEDICAL CORPS, U. S. ARMY.

To Erie Proving Grounds, Ohio, from Camp Custer, Lieut. E. A. Linger, Oconto.

To Fort Riley, from Camp Grant, Lieut. H. A. Vincent, Beloit.

To Fort Sheridan, Ill., from Fairfield, Ohio, Capt. E. G. Festerling, Reedsville.

"In the long fight for righteousness the watchword for all of us is spend and be spent. It is of little matter whether any one man fails or succeeds; but the cause shall not fail, for it is the cause of mankind."

THEODORE ROOSEVELT.

BOOK REVIEWS

New and Nonofficial Remedies, 1919, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1919. Cloth. Price, postpaid, $1. Pp. 388 + XXIX. Chicago: American Medical Association, 1919.

In this book are listed and described those proprietary remedies which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association and which should, therefore, merit consideration by the medical profession. The book also includes the newer nonofficial nonproprietary remedies that seem to the Council to give promise of therapeutic value. New and Nonofficial Remedies makes use of the Federal Trade Commission names for products originally introduced into this country by German manufacturers. These include arsphenamin, barbital and procain preparations replacing salvarsan, veronal and novocain respectively. The Council has omitted from the present edition all articles not now on the market, many of them originating in enemy countries. Among the most valuable features of this book for the physician are the thorough discussions of various therapeutic substances, including composition, dosage, therapeutics, actions and uses, etc.

The articles on digestive ferments, serums and vaccines and silver preparations have particularly been thoroughly revised, and it will be to the interest of every physician to acquaint himself with the present status of knowledge regarding the use of these preparations as brought out in this book. In a supplement to the book are given references to the reports of the Council on Pharmacy and Chemistry and the publications of The Journal regarding proprietary articles which have not been accepted. The material available in this book is nowhere else available, and its authoritative character makes it a therapeutic guide which should be in the hands of every practitioner.

THE MENTAL HYGIENE OF CHILDHOOD. By William A. White, superintendent St. Elizabeth's Hospital, Washington, D. C. Little, Brown & Co., Boston. 1919. Price, $1.35.

This is number five of a series of medical handbooks written by eminent specialists and edited by H. Addington Bruce, A. M., and known as the "Mind and Health" series. They are designed to present the results of recent research and clinical experience in a form intelligible to the lay public and medical profession. Previous issues are "Human Motives," by James Jackson Putnam; "The Meaning of Dreams," by Isadore H. Coriat; "Sleep and Sleeplessness," by H. Addington Bruce; and "The Influence of Joy," by George Van Ness Dearborn.

This work does not make pretense at being an exhaustice account of the psychology of the child nor of the relation between parents and children, but rather an examination of them from the point of view which has recently been developed in psychology. It provides a study of child nature that is needed by those whose business it is to make education truly effective. It is a most valuable work by one who speaks with authority and should be in the hands of parents, teachers, school physicians, and all who have in any way to do with the upbringing of the young.

THE DOCTOR IN WAR. Woods Hutchinson, M. D. Houghton Mifflin Company. Pp. 481. Price, $2.50 net.

This book can but have much interest both for our profession and for the laity as well, since it gives in popular form a general survey of the medical, surgical, and sanitary work of the war in our own country and on the various front lines in France and Italy. The author had exceptional facilities through the favor of the Secretary of War, of Colonel Roosevelt, and of his medical colleagues, and his gifts of graphic, sprightly and humorous description make the book a very readable one. He takes up the tasks of the sanitarian, the surgeon, the epidemiologist, and the various specialties of neuro-psychiatry (including so-called "shell-shock"), of venereal diseases, tuberculosis, and reconstruction of mutilated or crippled soldiers, showing the wonders that have been accomplished in all these directions in a most interesting manner.

He describes the complete victory obtained over typhoid fever and the other great scourges of camps and barracks. Some of the titles of his chapters will serve to give a further idea of the contents of the book as follows: "The Superb Health of the Armies," "The Carrel Triumph," "The New Diseases of the War," (trench fever, trench nephritis, trench feet), "The Armies at Play," etc.

The following quotation is quite illuminating (p. 294): "Typhoid has been almost wiped out; typhus, wherever it showed itself, stamped out by destruction of vermin which alone carry it; dysentery and diarrhoea reduced to the vanishing point by fly-fighting; scrupulous purification of drinking water and protection of food supplies; tetanus (lock-jaw) prevented by the routine use of the anti-toxin; and surgical skill saves ninety to ninety-five per cent of all the wounded who survive six hours."

He also shows that infant mortality during the war has been actually reduced instead of increased, both in France and England, and in the last two years the incidence of insanity among the civil population has been annually 2,000 less in Great Britain than it was before the war.

Optimism is the key note of the book and is supported by an array of facts which justify such an attitude, even though allowance must be made here and there for over enthusiastic estimates. R. D.

A TEXTBOOK OF PRACTICAL THERAPEUTICS, with especial reference to the application of remediable measures to disease and their employment upon a rational basis. By Hobart Amory Hare, M. D., B. S., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College of Philadelphia. Seventeenth edition, enlarged, revised, and rewritten. 1022 pages. Illustrated with 145 engravings and 6 plates. Lea and Febiger, Philadelphia and New York. 1918.

The work is divided into four parts, the first, general therapeutical considerations; the second, drugs; the third, remedial measures other than drugs, and the feeding of the sick; the fourth, treatment of disease, index of drugs and remedial measures, and index of diseases and remedies. It is a thorough revision of a standard text in which the author has held fast to that which is good, and in a conservative way has cast aside that which has become obsolete. Our recently acquired knowledge concerning shock, proper methods of intravenous injection, and direct transfusion is given. The use of Dakin's fluid and Dichloramine-T. by Carrel's methods and the treatment of burns by paraffine are added for the first time. More attention has been given to the matter of diet, particularly in respect to children and diabetics.

The recent development in the manufacture of drugs, formerly imported from Germany, is recognized and these are given under the American names. The work measures up to its former excellence and remains the standard textbook on therapeutics. It is the sort of work which should rest on one's desk always within reach and referred to daily. It is a work for the general practitioner and for the specialist alike and will, no doubt, continue its well deserved popularity.

NEOPLASTIC DISEASES. A textbook on Tumors. By James Ewing, M. D., Sc. D., Professor of Pathology at Cornell University Medical College, New York City. Octavo of 1027 pages with 479 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Cloth. $10.00 net.

Prof. Ewing's book entitled "Neoplastic Diseases" considers the subject of Tumors from a rather unusual view point. Instead of the usual division into a limited number of large classes in which tumors occurring in different organs or structures are considered as practically identical, the author has endeavored to "analyze the numerous etiologic factors which meet in such diverse fashions in the inception of tumors, to emphasize the general dependence of clinical course upon histologic structure, to trace the histogenesis to the last degree, impressing it's essential importance when known, and to enumerate and contrast the more striking clinical features which are often highly characteristic of different tumors."

For example, we are reminded that, "No one would think of confusing lobar pneumonia with pneumonic plague, although both are examples of acute exudative pneumonitis, but it is quite the rule to identify for statistical studies several equally different forms of mammary cancer. The former diseases are related only as forms of inflammation, the later only as types of neoplasia.

The larger section of the work concerns special oncology, but this is proceeded by a most concise and comprehensive consideration of general oncology which concludes with a review of recent experimental cancer research.

At the conclusion of the opening chapter entitled, "Historical," the following important statement appears: "The twentieth century opens as the experimental era with the systematic study of tumors throughout the animal kingdom, and it seems likely to become noteworthy as the period of specific etiological investigation which promises to widely separate many neoplastic diseases formerly held to be closely related. It may therefore prove to be the era of successful therapeutics and prophylaxis."

Under the "Diagnosis of Malignancy" one finds the following most important statement that might well be copied and hung in every so-called "laboratory" throughout the land: "Under some circumstances the microscopical structure may stand alone and override all other considerations. Far more usual is it to find the interpretation of structure to be greatly influenced by clinical information regarding the exact location of the tumor, its attachments, the presence of a capsule, and the age and condition of the patient.

Pathologists and surgeons alike commonly ignore these essential conditions of accurate diagnosis, a delinquency which is responsible for the wide and firm differences of opinion regarding the relation of microscopical structure and prognosis. It must also be urged that tumor diagnosis is commonly assigned to the relatively inexperienced, whereas the correct interpretation of structure in the light of clinical data requires a very wide experience not only with the general tendencies of specific structures but with the observed clinical courses of different tumors."

In speaking of the glycyl-tryptophan test for cancer of stomach it is stated that, "Lately it appears to have been shown that this ferment is ptyalin from saliva," but credit to Warfield, of our state, is not given.

Regarding metastases by lymphatic permeation the author inconclusively states, "In general it appears probable that the rapidly growing epidermoid and glandular carcinomas disseminate chiefly by lymphatic embolism while slowly growing and recurrent tumors, especially in the skin, often extend by continuous permeation."

Relative to heredity we find, "Nothing about cancer is more generally accepted than its heredity nature, and nothing is less satisfactorily proven."

As showing the frequent uncertainty regarding some tumors in a general discussion of sarcoma, one finds, relative to such tumor of the bone, "Traumatic myositis ossificans appears to occupy a position intermediate between inflammatory and neoplastic processes. The clinical history of established cases is that of a self-lmiting productive inflammation, but the histology of the early lesions may be difficult to distinguish from bone sarcoma. It appears that the division of cases is accidental, some of the lesions progressing as myositis, others going on as traumatic sarcoma. I have observed the two conditions combined. Central giant-cell sarcoma of bone has often been interpreted as a form of productive inflammation but its various phases show every gradation from the benign to a malignant process. "It is necessary to recognize two types of giant-cells in bone sarcoma. One occurs chiefly in the benign epulis, is chiefly of endothelial origin, and belongs among the foreign body giant-cells although participating in the tumor process. The other occurs chiefly in malignant periosteal tumors and is derived from tumor-cells. * * * "The giant-cells of the malignant tumor are quite different in appearance from those of the equlis and present single multilobed hyperchromatic nuclei while the chief spindle-cells of the tumor also show the features of malignancy, mitoses and hyperchromatic nuclei.

Endothelioma are considered very fully. Under the heading "Differential Diagnosis of Endothelioma," we find the following very frank statement: "Although there have been numerous attempts to establish differential diagnostic signs between endothelioma and other tumors it must be admitted with Lubarsch that reliable criteria of general application are lacking. On this account the personal impressions of the individual observer have figured too prominently in the steady expansion of this group of tumors."

Chapter twenty-one consists of 43 pages dealing with "Lymphoma and Lymphosarcoma" it seems to be a very commendable attempt to aid in an understanding of this subject that is now in an evolutionary period.

It will prove of special interest to the readers of this Journal because of the important work on this subject by Bunting and Yates.

Concerning the most important question of the rela-

tionship between chronic mastitis and cancer, after a discussion we find, "That a very large proportion of mammary cancers occur in breasts which are the seat of chronic mastitis."

Carcinoma of the breast is handled most satisfactorily and a very important paragraph on development of surgical treatment is found included. "Surgical statistics may be made more significant by more detailed attention to the gross anatomy and microscopical structure of the tumor. Statistical studies include encapsulated adenocarcinoma, miniature cancers or even precancerous lesions, and early circumscribed duct cancers, all of which may be eradicated by ablation of the breast, along with the highly malignant forms of the disease. It is possible to select cases which will give 100% of recoveries and others which will invariably prove fatal. Too often the radical operation is performed on comparatively innocent growths and the good result attributed to the sacrifice of tissue. No uniform rule can guide in the excision of skin when some cases show cutaneous invasion over a very wide area, others none at all. It would be interesting to know but is impossible to state how much a constitutional resistance influences a favorable result, after some very wide excisions. Experimental and clinical data strongly urge great caution against producing mechanical emboli in blood—and lymph—vessels by vigorous preparation of the skin and blunt dissection, especially in those advanced cases subjected to wide excision."

"From clinical and pathological studies I have drawn the impression that in dealing with mammary cancer surgery meets with more peculiar difficulties and uncertainties than with almost any other form of the disease. The anatomical types of the disease are so numerous the variations in clinical course so wide, the paths of dissemination so free and diverse, the difficulties of determining the actual conditions so complex, and the sacrifice of tissue so great, as to render impossible in a majority of cases a reasonably accurate adjustment of means to ends."

"The scope of the operative field having apparently reached a limit, the chief hope for a reduction in the mortality from mammary carcinoma lies in its prevention and earlier diagnosis."

"Both these objects point to the excision of many breasts before carcinoma has become established in the clinical sense. The growing tendency to remove the breast for recognized chronic mastitis or suspected carcinoma, while probably sacrificing some organs unnecessarily, has justified itself in the writer's material by securing the early removal of some miniature carcinomas, and more precancerous lesions. In this field too much reliance should not be placed on the examination of resected areas and nodules. When the condition of the organ becomes sufficiently suspicious to demand a partial excision for diagnosis it is usually safer to excise the whole breast, make the diagnosis complete, and remove a source of anxiety or actual danger."

Cancer of uterus and of stomach are handled in a very satisfactory manner.

X-ray pictures of cancer of stomach are included, but X-ray of the sarcomata of bone are not included, but we hope will be included in the next edition.

The volume of 1,000 pages ends with a very comprehensive bibliography and a workable index.

The cuts are excellent and the publisher's part has been most satisfactory.

The key note of the work is expressed by the author in the preface as follows: "While confessing a deep interest in the theoretic problems which render oncology the most complex and fascinating field in pathology the chief object and hope of the author have been that by rendering more accessible to English readers the knowledge of tumors he may contribute something toward the reduction of the mortality from cancer." This most worthy aim seems to have been very satisfactorily fulfilled.

Professor Ewing's work is monumental and will undoubtedly serve as a stimulus to the more careful study of tumors.

As this is one of the first volumes to be published in 1919 it is to be hoped that it may serve as an example for other books "Made in America."

F. G. C.

THE UNSOUND MIND AND THE LAW, a Presentation of Forensic Psychiatry. By George W. Jacoby, M. D. Funk and Wagnalls Co., New York and London. 1918.

This is a large volume of 404 pages covering every phase of the subject and is recommended to all interested in forensic psychiatry. The work is divided into three parts, the first dealing with the general relations of jurisprudence and psychiatry, a historical retrospect of psychopathic disposition, exogenous causes of mental disease, mental disorder and responsibility, and the examination of the insane. Part two deals with psychiatric experiment, psychoses in general, the neuro-psychoses, the psychoses of involution, and the intoxication psychoses. Part three deals with special anomalies such as hypnosis and the anomaly of sexual sense. The work does full justice to the requirements of the physician as well as to those of the jurist and is a splendid presentation of those questions of juristic psychiatry that may be designated as border line. It is an excellent work and merits a wide distribution.

MANHOOD AND MARRIAGE. By Bernarr MacFadden. The Physical Culture Publishing Company, Flatiron Building, New York. 1919.

This work, written for the lay reader, presents in popular form important knowledge on what are known as "hidden topics." The author, who has been for many years editor of the physical culture magazine, has succeeded in adding a valuable work on this subject to the popular literature published. It can be recommended for your patients but is not intended as a scientific treatise such as the average physician would wish to buy for his own library.

The tooth of a one year old ass, hanged upon the neck of an infant, so works that he shall erupt his teeth without pain.—*Albertus Mag.*

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Grant	M. B. Glasier, Bloomington	J. C. Betz, Boscobel.
Green	W. B. Gnagi, Monroe	W. B. Monroe, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	A. J. Wiesender, Berlin.
Iowa	H. D. Ludden, Mineral Point	J. R. Hughes, Dodgeville.
Jefferson	R. C. Morris, Ft. Atkinson	W. A. Engsberg, Lake Mills.
Juneau	E. H. Townsend, New Londou	A. T. Gregory, Elroy.
Kenosha	T. W. Ashley, Kenosha	J. F. Hastings, Kenosha.
La Crosse	H. E. Wolf, La Crosse	Sara Nimocks, La Crosse.
La Fayette	J. C. Hubenthal, Belmont	H. O. Shockley, Darlington.
Langlade	E. J. Donohue, Antigo	J. C. Wright, Antigo.
Lincoln	H. G. Hinckley, Merrill	D. B. Reinhart, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	J. E. Meany, Manitowoc.
Marathon	A. B. Rosenberry, Wausau	F. H. Frey, Wausau.
Marinette-Florence	J. W. Boren, Marinette	Luella E. Axtell, Marinette.
Milwaukee	G. J. Kaumheimer, Milwaukee	Dan. Hopkinson, Milwaukee.
Monroe	S. D. Beebe, Sparta	T. J. Sheehy, Tomah.
Oconto	C. W. Stoelting, Oconto	Minnie Hopkins, Oconto.
Oneida-Forest-Vilas	W. C. Bennett, Rhinelander	E. R. Boyer, Rhinelander.
Outagamie	M. J. Sandborn, Appleton	G. T. Hegner, Appleton.
Ozaukee	G. F. Savage, Port Washington	H. M. Katz, Cedarburg.
Pierce	W. A. Lumley, Ellsworth	Rollo Cairns, River Falls.
Portage	J. D. Lindores, Stevens Point	F. A. Marrs, Stevens Point.
Price-Taylor	G. H. McClure, Westboro	G. C. Wichman, Rib Lake.
Racine	J. G. Meachem, Racine	Susan Jones, Racine.
Richland	R. H. Delap, Richland Center	G. Benson, Richland Center.
Rock	W. A. Munn, Janesville	E. B. Brown, Beloit.
Rusk	W. F. O'Connor, Ladysmith	L. M. Lundmark, Ladysmith.
Sauk	F. D. Hulburt, Reedsburg	Roger Cahoon, Baraboo.
Shawano	A. J. Gates, Tigerton	W. H. Cantwell, Shawano.
Sheboygan	Edmund Knauf, Sheboygan	Harry Heiden, Sheboygan.
St. Croix	B. Kunny, Baldwin	O. H. Epley, New Richmond.
Trempealeau-Jackson-Buffalo	E. A. MacCornack, Whitehall	C. F. Peterson, Independence.
Vernon	J. K. Schreiner, Westby	F. E. Morley, Viroqua.
Walworth	M. D. Cottingham, Lake Geneva	E. Kinne, Elkhorn.
Washington	H. F. Weber, Newburg	A. H. Heidner, West Bend.
Waukesha	J. H. Overhaugh, Hartland	S. B. Ackley, Oconomowoc.
Waupaca	Fremont Chandler, Waupaca	G. T. Dawley, New London.
Winnebago	F. G. Connell, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. C. Hayward, Marshfield	Wm. Hipke, Marshfield.

EAU CLAIRE COUNTY.

The Eau Claire County Medical Society held its regular meeting Monday, May 26. Dr. I. F. Thompson of the U. S. Public Health Service read a paper on the "Plan of the Federal and State Government for the Control of Venereal Disease." Following this, the reports of the Hospital Standardization and the Contagious Hospital Committees were given. A supper was given at the Galloway House at 7:15 P. M.

R. E. Mitchell, M. D., *Secretary.*

FOND DU LAC COUNTY

Members of the Fond du Lae Medical Society met at the Palmer House, Wednesday evening, May 14. The meeting opened with a supper at six o'clock, covers being laid for fifteen, and at the conclusion an address was given by Dr. G. V. Mears who took as his subject, "My Obstetric Experiences." At the close of his talk a general discussion by the other physicians followed.

MARINETTE-FLORENCE COUNTY.

The Marinette-Florence County Medical Society held a social meeting at the home of the president to welcome the Marinette and Menominee doctors recently returned from service, Lieutenant L. H. Redelings, Captain C. R. Elwood, and Major H. T. Sethney, each of whom gave a general and very interesting account of his experience.

Luella E. Axtell, M. D., *Secretary.*

MILWAUKEE COUNTY.

The Milwaukee Medical Society and the Wisconsin Surgical Association met at the Milwaukee County Hospital in a surgical and medical clinic on Thursday, May 8, the session lasting from 8:30 A. M. to 5 P. M. The surgical clinic was conducted by Drs. E. A. Fletcher, C. W. F. Witte, J. L. Yates, and F. G. Gaenslen, and the medical clinic was conducted by Drs. L. F. Jermain and L. M. Warfield. In the evening, a meeting was held in the Gold Room of the Hotel Wisconsin, opening with a dinner at 6:30. Dr. Karl Doege of Marshfield read a scientific paper on "Gastric Ulcer and Cancer," and Lieut. Col. C. A. Evans of Base Hospital 22 talked on "The Care of the Wounded."

MILWAUKEE MEDICAL SOCIETY

A meeting of the Milwaukee Medical Society was held in its rooms in the Colby-Abbott Building, Tuesday, May 13, at 8 P. M. The names of Dr. Maurice Altman and Dr. W. G. Hyde were presented to the Society for action and favorably acted upon. The following program was given: "Transfusion and Tests for Transfusion," Dr. W. A. Thalhimer, Director of Laboratories at Columbia Hospital; "Sanitation Problems, Beaux Desert Hospital Center, France," Dr. John M. Beffel.

Oscar Lotz, M. D., *Secretary.*

NINTH COUNCILOR DISTRICT.

The annual meeting of the Ninth Councilor District Association was held in Stevens Point, May 17. Dr. S. M. B. Smith of Wausau was elected president and Dr. Jos. F. Smith of Wausau was re-elected secretary. The program opened with a clinical meeting in the afternoon which was followed by a supper. In the evening, Dr. Wilbur E. Post of Chicago, recently returned missionary from Persia, told of the experiences of the American relief commission in Persia and Mesopotamia. A paper was also read by Dr. G. H. Lawrence of Stevens Point.

WINNEBAGO COUNTY

A meeting of the Winnebago County Medical Society was held at the Elks' Club, Oshkosh, May 28, at 8:30 P. M. Dr. J. M. Conley gave a very interesting talk on "Mental Inefficiency."

H. W. Morgenroth, M. D., *Secretary.*

NEWS ITEMS AND PERSONALS

The 32nd annual convention of the American Association of Orificial Surgeons will be held September 15, 16 and 17 at the Congress Hotel, Chicago. The forenoons will be given to operative demonstrations at the hospital. The program will be replete with addresses, essays, and papers by prominent Orificialists. The clinics will be interesting as usual.

In order to meet the demand for household nursing service, the Milwaukee Society for the Care of the Sick has decided to extend for a limited time, through its bureau of home nursing, the advantage to women interested in its six months' course in home nursing, without tuition. The school, located at 808 Jackson street, is the center from which all workers are sent out and at which they live while in training. Besides the theoretical work, practical experience is given in the homes under the instruction of a supervisor of the bureau of home nursing as well as two months of hospital training.

Money to endow a hospital bed for a year has been given recently by John S. Owen and John G. Owen of Eau Claire. The Visiting Nurse Association will administer the fund. The free bed is for those persons who are not city charges but are unable to meet hospital bills.

Announcement of the opening of the Marathon county hygienic laboratory at the city hall has been made by the director, Dr. C. D. Partridge of Wausau. The laboratory service is for all the territory of the state convenient to Wausau, and physicians are invited to send in specimens for examination, a report on which will be made without charge.

The Milwaukee Maternity Hospital received more than $600 as the result of work of women who sold carnations in the lobbies of hotels and in office buildings a

short time ago. The money will be used to improve the quarters in the old Columbia Hospital. A new furnace and lighting system are being installed in the building and it is being newly painted. It will be ready for occupancy about June 1.

An anti-rat campaign is being started in Green Bay by the public health committee of the Woman's Club, with a similar movement throughout the country sponsored by the United States department of agriculture. The rat menace has been found to be one of the greatest detriments to health and food production. Its destructiveness is not confined to crops and property; it menaces human life as well.

Dr. G. V. I. Brown of Milwaukee left on May 6 for Syracuse, New York, where he will read a paper on "War Surgery" before the New York State Medical Society.

The Wisconsin death rate for the first quarter of 1919 was no higher than the average for the last several years, according to the quarterly mortality report of the state bureau of vital statistics. The rate was 13.2 per thousand population. The state board of health states that the large increase in the number of deaths reported from pneumonia and influenza for the first quarter of 1919 as compared with similar reports for other years is offset by the decline in the number of deaths reported from practically all of the other communicable diseases.

The circuit court of appeals in Chicago affirmed the sentence of Dr. John G. Barnsdale of Superior to three years in Leavenworth prison and a fine of $6,000 for his violation of the anti-drug law.

The need of larger quarters has forced the Wisconsin Anti-Tuberculosis Association to seek a new home and the entire University Extension Building, 471 Van Buren Street, Milwaukee, which it has shared with the University of Wisconsin extension division for the past five years, will be taken over for the activities of the latter organization as soon as the association can find a suitable location. Dr. Hoyt E. Dearholt, executive secretary, is a member of a committee who are looking for a new building. The committee was instructed to report both on available quarters which can be leased and property which can be purchased.

The movement to make the position of health commissioner a permanent one assumed definite form when the chairman of the legislative committee of the common council of Milwaukee announced that he would prepare a bill making necessary provisions and work for its presentation at the present session of the legislature.

The physicians of Sheboygan have endorsed the establishment of a public dispensary in that city. It is planned to have rooms in the city hall. A systematic campaign against diseases will be conducted by social workers and patients will receive treatment at nominal cost at clinics. Venereal diseases and tuberculosis will be treated.

Dr. T. C. Clarke of Oconto is planning to open the hospital again as soon as the necessary arrangements can be made.

The free dispensary of Milwaukee county will be located on the top floor of the Saxe building, Fifth St. and Grand Avenue. The county has appropriated $30,000 for equipment and the most modern hospital appliances will be installed. Alterations of the building will be completed in time for the dispensary to open on June first. According to present plans, a staff of fifteen physicians will be employed.

Miss Regine White, for seventeen years superintendent of Emergency Hospital, will leave that institution July 15. Miss White will take a sociological course in Columbia University, New York City.

Dr. J. M. Furstman, city health commissioner of La Crosse, has resigned to take a similar position at Bloomington, Illinois. Dr. J. L. Callahan has been elected president of the health board for the ensuing year.

A township nurse, the first in the state, will be engaged by Laona, Forest county, according to Dr. Louis Dorpart, deputy state health officer for northern Wisconsin. Efforts are being made to have a county nurse appointed for Forest county. If the pending Coe bill is enacted, it will make it mandatory upon all counties to provide this agency for better health in rural districts.

That the city and county of Eau Claire stood in urgent need of a hospital for contagious diseases found no dissenting voice in an audience of fifty representative citizens at a meeting recently held. A motion was carried that an advisory committee of three be appointed to select a number at its discretion as a permanent committee to study the needs, location, and plans of procedure and report findings at a meeting in the near future.

Dr. T. J. Redelings of Marinette, a former president of the State Medical Society of Wisconsin, and councilor of the ninth district, has been seriously ill since May fifth. His hundreds of professional friends will anxiously await news of his recovery.

The Kenosha Hospital Board at a special meeting held recently looked with favor on the plan presented by representatives of the Kenosha Service League for staging a united campaign in the city for funds to support the various charitable organizations. The report of the finance committee of the Hospital Board showed that a minimum of $10,000 would be necessary to clean up the deficit of the hospital and that in addition it would be necessary to secure a sinking fund to meet the expenses of the ensuing year.

The jury that tried John Till of Turtle Lake on a charge of practicing medicine without a license found him guilty, but an application for a new trial was made and sentence will not be pronounced before that hearing has been held.

Captain I. F. Clark, now enroute to America, will take over the practice of Dr. L. J. Phillips of Weyerhauser who was killed in France. Doctor Clark formerly practiced in California and Oklahoma.

With their lives pledged to the pursuit of good health, more than three million school children throughout America have been enrolled in the modern health crusade, a disease-prevention movement which is being developed in the public schools of the country under the auspices of the National Tuberculosis Association and the Junior Red Cross.

Dr. J. J. Rehorst, who has been engaged in the practice of medicine at North Fond du Lac for the past seven years, will become associated with Dr. S. E. Gavin after June first. Dr. H. Devine of Milwaukee, who is now engaged as an interne at Milwaukee County Hospital, will assume the practice of Dr. Rehorst at North Fond du Lac.

Claiming negligence, Lucas and Mary Kuglich brought suit for $25,000 damages against Dr. I. H. Fowle and the Ogden Hospital in circuit court.

Dr. C. J. Coffey, a member of the Milwaukee school board, has been appointed a member of a committee which is to carry out the plans for amalgamation of the medical inspection department of the schools with the city health department.

A free clinic for the treatment of social diseases will probably be established in Superior. As the state furnishes about $2,500 of the amount necessary to carry on the work and the city only $500, it is very likely the city commission will take favorable action in the proposition.

Walter B. Swift, A. B., S. B., M. D., has just returned to Boston from Cleveland, where he has spent about a year installing and supervising Speech Correction in the Cleveland Public Schools. He trained 15 teachers who are part time speech teachers. They do their regular grade work as usual. The part time speech teacher is one of the unique features of the Swift methods and systems of speech correction. In Cleveland there are now 46 classes and over 600 cases under treatment. This Cleveland Speech Plant is one of the finest organizations of its kind in the country. Having completed this work at Cleveland, the speech movement now passes to the West and South. Dr. Swift will be in Milwaukee, Wis., in July, and Athens, Ohio, in August. He is booked to give informal courses in these two cities this summer.

A radical change in the plans suggested by physicians for the new Milwaukee county hospital was made by the joint county board committees on public buildings and grounds, county and state institutions and finance when Architect A. C. Clas was authorized to change previous plans calling for a hospital of 1,000 beds so as to make the competitive program call for 500 beds only and place the cost at not more than $1,000,000. Under previous plans, the cost would have been more than $2,500,000 and the number of beds would have exceeded the combined total in all the hospitals in the city.

A contribution of $25,000 has been made by Dr. Charles H. Vilas for the addition of a new building to the Madison tuberculosis sanatorium. On the first floor will be a big dining room, a "lounge," library, reading and recreation room, and a culinary department. The rooms and baths, each with sleeping porches, will be on the second floor. The sanatorium will have six buildings, the others being the infirmary, two cottages, administration building and power house. Dr. Vilas' total contributions to the sanatorium now amount to more than $60,000.

The National Society for the Study and Correction of Speech Disorder will have its summer meeting in Milwaukee, on July 4, as one of the affiliated Societies of the National Educational Association. Members of the Society and invited guests of prominence in the field of speech correction, will address the Association. Anyone interested to receive an advance program may do so by addressing the Secretary, Miss Marguerite Franklin, 110 Bay State Rd., Boston, Mass.

One of the many bills relating to schools up for a hearing before the assembly committee on education is that creating a department of hygiene supervision of school children, defining its powers and appropriating sufficient money therefor. The proposed department is to be conducted by the department of public instruction. The bill requires the superintendent of public instruction to appoint a supervisor of hygiene who will be a physician licensed to practice medicine and surgery, qualified to administer, supervise and direct the varied program of hygiene supervision provided under the bill, subject to the authority of the state superintendent of public instruction. He shall be known as the state supervisor of school hygiene. The school superintendent shall appoint such other assistants, officers, stenographers, clerks and personal service as may be necessary.

Under an arrangement between the health department and the Red Cross, details of which were announced by Health Commissioner G. C. Ruhland, milk will be sold to children at 1 cent per cup in the congested districts during June, July and August. The Red Cross will supply the milk which will be sold from auto trucks, visiting certain sections at designated hours. Four places have been selected already as "stops" for the trucks. Detroit St. school, Abraham Lincoln house, Ninth and Sherman Sts.; Auditorium and St. Paul Ave., between Seventh and Eighth Sts.

So many women students are interested in the study of medicine that a Woman's Medical association, with a membership of between 40 and 50, has just been organized at the University of Wisconsin. Nine women enrolled in the university medical course are included in the membership. Other members are women enrolled in the premedical course offered in the college of letters and science and medical school.

Changes in health officials of several important cities are noted in lists at the state board of health. Dr. C. D. Partridge, laboratory director of the Milwaukee health department, has become full time health officer of Wausau and director of the newly opened state co-operative laboratory of hygiene. Dr. Fred B. Welch became health officer of Janesville, succeeding Dr. S. B. Buckmaster, who served fifteen years. Dr. J. H. Furstman resigned at La Crosse to become health commissioner at Bloomington, Ill.

The Brown County Medical Society pledged support to the free dispensary project which welfare organizations propose to establish in Green Bay.

DEATHS

Dr. L. I. Aldrich of Black Earth died of heart failure, Wednesday, April 30, at the age of 51. He was born at Monticello and practiced at Madison before going to Black Earth. He was a graduate of the Iowa Medical College, class of 1888. He was a member of the Dane County, Wisconsin State, and American Medical Associations.

Dr. J. Ashmun of Rural, Waupaca County, died April 29, 1919, aged 86 years. He was born in Champlain, New York, in 1833 and lived there during his youth, graduating from the Champlain Academy at the age of sixteen, and later studied medicine. He settled first at Waupun, later removing to Rural where he practiced for more than sixteen years.

Sex and Sex Worship. A scientific treatise on sex, its nature and function, and its influence on art, science, architecture, and religion, with special reference to sex worship and symbolism. By O. A. Wall, M. D., Ph. G., Ph. M., author of the "Handbook of Pharmacognosy," "The Prescription," "Elementary Lessons in Latin," etc. 372 illustrations. 607 pages. C. V. Mosby Company, St. Louis, Missouri. 1917.

This is a most remarkable contribution to the literature on sex subjects and occupies a space all its own. The work takes one back to the dawn of history, beginning with the most primitive ideas about sex; early mythology on the subject; the more modern religions and other beliefs; the status of woman throughout the ages; the Bible of the Greeks; sex in plants and animals; the social relationships of man and woman throughout the ages; a study of the gratification of the senses; art and ethics considered from the sexual standpoint; the origin of religious ideas; primitive beliefs; the sexual relationships of the gods; phallic worship, etc., etc.

This work is in a class all by itself and it is impossible to do justice to it in a magazine review. It contains a wonderful collection of historic illustrations. It is well worth while to physicians, lawyers and all students of the subject.

PUBLIC HEALTH AND LABORATORIES

Edited By W. D. STOVALL, Madison and MRS. LOUISE BRAND, Milwaukee

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ADVANCEMENT OF PUBLIC HEALTH.

(*Continued.*)

W. D. STOVALL,

DIRECTOR OF THE STATE HYGIENIC LABORATORY, MADISON.

In a previous article I attempted to show that public health can not be advanced from the top; that the machinery for disease prevention must have its place of operation in the community which it is intended to serve and that certain superior governmental supervision and assistance is necessary.

Public health bureaus should be one of the most important departments of the government both municipal, state and national. It has not received due recognition by the governing bodies. Notwithstanding the fact that scientific research has elevated public health work to the place of a specialty, it is still the habit of communities to appoint as their health officer someone who divides his time between public and private business. This divided attention necessitates the neglect of either public or private business, and the latter usually being the one from which the greatest return is realized is not the most frequently neglected.

One of the chief causes of the slow progress of the public health movement is the fact that methods known to be good as preventive measures have not been put into practice; or if an attempt to apply the scientifically demonstrated facts has been made it has usually been done without a thorough knowledge of the detail which is required to bring success. This lack of attention to detail has been due to a lack of sufficient funds to employ an adequate staff of trained men, to divided interest on the part of health officers, and to objection on the part of the community to interference with what has been erroneously called individual privileges.

While one of the serious defects in health departments has been a lack of money and therefore the neglect of necessary detail, in many instances the money available has not been used to the best advantage. Funds have been spent upon detail

from which only small returns can be realized. It is well known that while much is accomplished in the way of conservation of health still much of the effort put forth is ineffective. This comes from spending money and effort upon problems which have so little bearing upon the health of the community that the health department should not be concerned with them. A good illustration is the time and money consumed by health departments in dealing with garbage disposal and terminal fumigation. The time and money spent in this work means much time and money lost so far as the health department is concerned. It is not hard to find cities in which there is always the excuse for not accomplishing more that no money can be obtained, still these departments employ many people with rather high salaries considering the type of work they do to go from house to house lighting formaldehyde candles, and the health budget in the same cities takes care of the expense of a very carefully worked out plan for properly disposing of garbage. The irrelevance of these things as well as other lines of activity will be shown in the following paragraphs.

It is interesting in this connection to quote from a writer who very clearly points out the chief sources of danger to the public health. He says:

"I boldly assert that if every case of communicable disease were promptly reported to the proper local board of health and as promptly placed under *effective Control,* and *So Kept* until danger of infection had passed, all other present day activities of boards of health, whether local, state, or national with the exception of those directed against certain causes of infant mortality, might be dropped with no appreciable effect upon the general health or mortality of any of our states or most of our cities."

There are many things to be taken in consideration to modify this statement. In the first place it is impossible to very completely effectively control patients sick with a communicable disease and still more difficult to control the carriers. In the second place there are always a good many people who, being less susceptible than the average person, suffer only slightly from one sort of an infection or another but who nevertheless are able to pass the disease on to others. These are the so-called missed cases. So while the above quoted statement needs much modification, still it does say in a striking way just what our health departments need to know and that is, that the control of disease now-a-days is the application of specific instead of general measures.

Just as certain as the community is the center for public health activity so is it certain that haphazard methods for the prevention of disease have come to an end. Action of a specific character has taken the place of general measures. It has been realized that filth per se is not the cause of sickness, and that an order for a general clean up campaign is not an effective means of quelling an epidemic. Scientific research has brought public health out of the dark ages of doubt, generalities and grandiose speeches to a day of specific action against certain disease. The modern public health inspector does not examine the back yard looking for upturned tin cans and piles of rubbish to find a cause for an epidemic of typhoid fever. He knows that the cause of typhoid fever is the typhoid bacillus and that the only way to learn the source from which the epidemic is being spread is to go to the bedside of those who are sick.

Each epidemic has its individual characteristics. Each epidemic, if conditions are allowed to go until epidemic proportions are reached, demands special study. In fact, each case needs attention from the health department as soon as it is reported if epidemics are to be prevented. The day has come when it is no longer possible to say "water borne" in cases of typhoid fever epidemics without first ascertaining by special study whether or not the water supply is really the cause. The human carrier of disease producing bacteria is today recognized as the chief source of trouble and in the last analysis is the source from which disease is spread.

We read much in the papers about swat the fly, when it should be destroy the dung heap. The manure pile is the breeding place for flies. If their home is destroyed there can be no flies but as long as they have homes in which to breed, eradication by swatting is impossible. However, the fly itself is not to blame for the spread of disease. It acts only as a mechanical carrier of disease producing bacteria. Outhouses which are the result of carelessness, neglect, and ignorance of men, is where the fly secures its burden of disease producing germs. If all human excreta were carefully disposed of then the fly would not be so dangerous an insect.

Just as each epidemic of the same disease requires special study to determine from what source it is being conveyed and along what route, so each disease differs in routes by which or over which it can be conveyed. Diphtheria differs from typhoid in that it is not water borne but is passed from one individual to another by contact. The unsanitary outhouse has nothing to do with epidemics of diphtheria, and no public health investigator would concern himself with these unsanitary conditions when seeking to quell an epidemic of diphtheria.

Disease is prevented by specific measures. The public health worker now-a-days must understand how to set about applying these measures and must realize that disease prevention requires special study in each case in order to know how and where to apply the remedy. Generality in public health has been replaced by specificity.

In the past much has been covered up under the broad term of sanitation. Good sanitary conditions have been considered to mean clean premises, neat appearing places, places where rubbish of all kind is kept out of sight, places where careful and adequate garbage disposal is carried out. As a matter of fact, these things have only a very indirect influence on the occurrence of any of the communicable diseases. Diphtheria, septic sore throat and typhoid fever are bacterial diseases. To become affliated with one of these diseases it is necessary first that the individual be susceptible and secondly that the individual be infected with the bacteria which produce the disease. These bacteria do not multiply outside of the human body. They die rapidly in the environment in which we live. They live in the body without producing any ill effects to those people who are not susceptible to these infections. The problem then resolves itself largely into susceptible people coming in close contact with those who harbor and are shedding disease producing bacteria, or coming in contact with some object which has recently been infected by people sick with a bacterial disease or one who is a carrier. There is no conclusion, therefore, to which we can come but that the control of communicable diseases depends primarily upon locating and controlling people who are sick with these diseases and those who are carriers. Garbage disposal and clean up campaigns have no specific influence upon the prevention of communicable disease.

The question then is, has environment no influence upon the spread of disease? If it were possible to control all patients and all carriers, the question could be answered in the negative. This, however, is obviously impossible. This being impossible, we must attempt the prevention of communicable diseases by guarding the routes along which these diseases are known to travel. That is to say, water supplies and milk supplies may be infected by typhoid bacillus carriers and through them the organisms of typhoid fever may reach susceptible people. Because it is impossible to control those who are sick with typhoid fever and the carriers who shed these organisms, it is necessary then to exercise supervision over these two sources of food supply as well as other routes along which typhoid bacilli may be transported. In communities where out-door closets are common the fly becomes a means of spreading typhoid bacilli from human excreta to food and objects with which man comes in intimate contact. In such communities it is necessary to control the disease by doing away with the breeding places of flies, manure piles, by properly protecting closets from flies, and by screening homes and particularly the kitchen and dining rooms.

While the regulation of these environmental conditions for the control of typhoid fever is necessary, if we consider diphtheria another entirely new situation is confronted. No one thinks of regulating the water supply, or demands sanitary closets for the control of diphtheria. Diphtheria is not a water borne disease. It is spread, however, by secretions from the mouth and nose. These secretions having easy admission to the vicinity immediately surrounding the sick person or the carrier, the disease is spread largely by direct contact. Because patients sick with diphtheria can so easily infect objects in their immediate vicinity, the disease is more easily contracted, it is more communicable, and therefore laws have been enacted for quarantining these people. It has been and is today in many places customary to provide for these patients a definite period of quarantine, 14 to 21 days. In establishing such periods of quarantine the fact that a patient fully recovered from diphtheria may be far more dangerous to the community than while they are sick is entirely disregarded. After recovery these patients always carry virulent diphtheria bacilli in their nose or throat for a longer

or shorter time, in some cases a very long time, 3 to 6 months, and while well themselves are mingling with the community and passing diphtheria around to all who are susceptible. Bacteriological methods for releasing from quarantine persons recovering from diphtheria offers the only effective way to control this disease. No set period of quarantine can do anything more than ameliorate conditions to some extent. The definite period of quarantine works a hardship on many who would be able to obtain their release by cultural methods long before the quarantine period is up, but on the other hand frequently set free those who are capable of creating much mischief in the community.

If we now consider another phase of public health, child welfare and the prevention of infant mortality, we are confronted with another set of problems. These problems require specific measures for their solution. The prevention of infant mortality requires a great deal more than the proper enforcement of communicable disease laws.

Enough has been said to show that public health methods which do not recognize the known facts concerning causes of disease, modes of transmission, routes of infection, and means for control, are a waste of both time, money and human life.

There is one thing which seems to me to be very apparent from the consideration of this subject, and that is: Attention to detail is of prime importance. It seems that in no other work is detail so necessary, detail in all departments of the work, in the office and executive branches as well as among the field workers. The most responsible and most fruitful detail lies in the field work. This means, of course, that the most important part of health work is done right with the people. A good deal of this work is done at the bedside, gathering information which, when put together with similar data obtained from other sources, brings a correct conclusion as to the source from which the disease is spreading. In other words, the work of the public health worker in the field is like the clinician who visits his sick patient and by collecting the information afforded through signs and symptoms makes a diagnosis. Public health work can no more be done sitting at a desk and hazarding opinions about this or that than can absent treatment effect a cure of pathological conditions. A very elaborate and expensive machinery may be provided with which to combat disease and still if an intimate knowledge of the necessary details is lacking very little can be accomplished.

It is obvious, therefore, that health departments must be adequately manned. It takes a large force of specially trained men to bring about results. This means money. It is better, however, to spend an adequate sum and obtain results than to spend an inadequate amount and get little.

The attitude of legislative bodies, local and national should not be: How little money can we spend and have a bureau which goes under the name of a health department, but how much money is required to conduct a health organization which will be effective?

It is the duty of members of the medical profession to exercise their influence in obtaining adequate support for competent health departments.

BLIND TO ITS PROBLEM.

Registration of forty-two girls, infected with venereal disease, in a little Wisconsin city of less than 3,000 population is regarded by workers in touch with the situation as convincing need both for the state program launched by the State Department of Health in co-operation with the United States Public Health Service for the establishment of venereal disease clinics in various parts of the state and for increased effort to secure the completion of the State Industrial Home for Women at Taycheedah.

It is striking illustration also of the blindness of communities to the existence of their own health problems for it is not so very long ago that this little city reported that it had no women eligible for custodial care and training. Now it and adjoining communities are thoroughly aroused over a situation of which they were in ignorance a few months ago but which has been going on for years and which affects high school students in at least one other nearby city.

The uncovering of the situation came as a result of two activities which were unrelated in their origin. Some time ago, philanthropic workers in the community decided to use their anti-tuberculosis fund raised by the sale of Red Cross Christmas seals, for the employment of a public health nurse for short time service in the schools. About the same time, the Central Council of Social Agen-

cies of Milwaukee assumed the responsibility of collecting evidence to be used in protest against proposed plans for using the buildings at Taycheedah for some other purpose than the one for which it was originally intended.

Workers in the Central Council had taken the leadership in the campaign which finally in 1913 secured an appropriation from the legislature for the State Industrial Home for Women. Repeated delays have marked the construction of the buildings, the two which have been completed being unavailable because there were no funds for the erection of a heating plant or for equipment of the institution.

These delays and a disposition on the part of the governor and other officials to abandon the Industrial Home project and take over the buildings for other purposes have been regarded with grave concern by social workers all over the state whose daily contact with local problems has convinced them of the need for a reformatory institution for women. It was decided therefore to make a tentative state survey and to this end a special committee of the State Council of Social Agencies sent out registration cards to agencies in all the counties.

As a result there is now in Milwaukee a state registry of over 500 girls and women between the ages of 16 and 30 years who are regarded by the authorities as eligible for custodial care at the State Industrial Home. The experience of the little city already referred to indicates that this list is most conservative.

When the registration cards were sent to the selected agency in this little city, (it was the Red Cross Home Service section in this instance) its representative consulted the local authorities and then reported that the community had no such women. Milwaukee agencies in the Central Council had the record of several girls from that community who were known to the Milwaukee agencies and this list was furnished the local worker. In the meantime, the duties of the public health nurse brought her in contact with a young woman whose condition led her to take the nurse into confidence. With this as a starting point, the nurse and the Red Cross worker have conducted an investigation which has resulted in the discovery of the forty-two cases and which has pointed so conclusively to the existence of a similar problem in a nearby city that a similar investigation has been carried on there.

Following the revelations of the investigation, conferences of county and city officials have been held. Red Cross funds are being utilized to continue the nurse in office after the close of the school year, the purpose being to have her do county work during the summer which will demonstrate to the county board of supervisors the immediate need for employing a county nurse and probation officer.

RICHLAND COUNTY A PACEMAKER.

Establishment of the Richland County Red Cross Health Center, made possible by the public spirit of the physicians and dentists of Richland Center and of other leading men and women in the little community of about 3,000 people and by the use of Red Cross funds, gives Richland County the honor of being the first in the state to provide dispensary service available to the entire county. To be sure, Milwaukee county has appropriated $40,000 for a general county dispensary which will serve as a clearing house and outpatient department for all its county institutions dealing with the sick but owing to various delays the opening of this general dispensary is not yet in sight.

Even though the Milwaukee dispensary were in operation, however, Richland county would still have the distinction of being the first typically rural county in the state to provide public, centralized health service for its people. Richland County has a total population of about 19,000 and its largest city is Richland Center, its county seat, and a community which has attracted national attention by its progressiveness. Some years ago a writer for World's Work, in search of the "spirit of the middle west," found it in Richland Center and the magazine carried an enthusiastic story of the public spirit of this little municipality, its municipally owned utilities, and its municipally owned public auditorium.

The establishment of the Richland County Red Cross Health Center is the result of the people's taking into their own hands work which their elected representatives, failing to read the signs of the times, refused to do. Following the revelations of the draft examinations and the weighing and measuring of children of pre-school age, the women of the county conducted a campaign for the appointment of a county nurse. The county board of

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supervisors voted the project down. So the Women's Committee of the County Council of Defense assumed the responsibility of raising the money for financing the nurse and engaged Miss A. Grace Johnston.

That was the first step. The next big one came at the May meeting of the Richland County Medical Society when the physicians voted in favor of the establishment of a county health center and also voted to raise a fund of $100,000 for the erection of a county hospital. The doctors are thus taking the initiative in a movement in which several organizations, including the Red Cross, the Wisconsin Anti-Tuberculosis Association, the federation of women's clubs, and the county council of defense child welfare workers, are co-operating.

Already a second nurse, Miss Kate Huenink, has been employed, an automobile for the use of the nurses in their rural work has been purchased, and clinic rooms in one of the best business blocks of the city have been secured. The State Department of Health will establish a venereal disease clinic in connection with the health center.

The project is being launched as a Red Cross activity, financed with Red Cross funds, but it is the hope of the promoters that ultimately it will be taken over by the county.

LEARNING HEALTH HABITS.

Over 200,000 children between the ages of 6 and 16 years have been enrolled in the Modern Health Crusade, conducted in Wisconsin public and parochial schools under the direction of the Wisconsin Anti-Tuberculosis Association and the Junior Red Cross. In addition to this number there are 20,000 in continuation schools of the state, this being the first time that an organized health activity has been attempted in the continuation school.

The following "straws" may be of interest to medical men as showing the general trend of the goodly sized breeze that has been raised by this organized health chore work in the schools.

"This Health Crusade has made us think more of our health than we did before," writes a sixth grade girl from Eau Claire. "Every point we gain in our health is like a deposit made in a bank account. As we grow up our bank account will grow larger and we are that much stronger to resist disease."

In one county approximately three out of every forty children slept with windows open before the crusade. Now the proportion is thirty out of the forty.

In a school of thirty-seven pupils, thirty have given up drinking coffee and are sleeping with windows open.

TOWNSHIP TO HAVE NURSE.

The little township of Laona, Forest county, is the first township in Wisconsin to employ a public health nurse for work in its schools and homes. The town board has voted an appropriation for the work. The population of the township is about 1,200. There isn't an incorporated village in the township.

SEEMS SURE TO PASS.

The Coe bill, 285A, making it mandatory for every county in Wisconsin to employ at least one public health nurse or health instructor passed the assembly with but one dissenting vote. Later it was passed by the senate with a minor amendment which makes it necessary for the bill to go back to the assembly. The amendment stipulates that the public health nurse shall be a registered graduate nurse.

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THE USE OF YEAST IN GASTROENTERITIS.

Among the diseases in which yeast was used successfully by Hawk and his co-workers (J. A. M. A., LXIX, Oct. 13, 1917, p. 1243-1247) is gastro-intestinal catarrh. This was rather to be expected since brewers' yeast was early used with success in various diseases of the gastro-intestinal tract. The value of Hawk's article is that he showed that the unavailable brewers' yeast may be replaced by the uniform and readily obtainable compressed yeast.

Among the diseases in which various forms of yeast have been used with success is gastroenteritis of infants. There is every reason to believe that these will react to compressed yeast at least as readily as they did to yeast in other forms. Aside from its freshness, as in the cake supplied by The Fleischmann Company, compressed yeast may be readily gauged as to dose, in itself possesses nutritive properties, and contains vitamins. Autolyzed yeast when given by Hess to babies produced a rise in the weight curve. (Am. J. Dis. Children, Vol. XIII, No. 1, Jan., 1917, p. 98-109).

Yeast was used in the treatment of gastroenteritis of adults and infants by Drs. Thiercelin and Chevrey (Rev. de therap. med.-che,. 1899, pp. 797-803) with marked beneficial results. They gave a suspension of yeast to children by rectum, two or three times a day after the rectum had been washed out. The children were held by the nurse in such a position that they could not expel the suspension. Food was withheld until the fever fell.

Cures of chronic gastroenteritis were treated the same way. In one case of dysenteric diarrhoea (in an adult) that had resisted other treatment for more than a month, the remedy was used with success within 48 hours after first administration. The adult cases were given yeast by mouth as well as by rectum. (One case in an adult was a case of muco-membranous enteritis, which improved very much under yeast treatment.)

It stands to reason that yeast will exert a greater influence on the gastro-intestinal tract when it is given by mouth than when it is given by rectum alone. Yeast also has a beneficial effect on infants with gastroenteritis when it is given by mouth. This is shown to advantage in the results obtained by Sittler in the treatment of infants of gastroenteritis with yeast by mouth. (Munch. med. Woehenschrift, 1906, No. 36, p. 1761-1762.) Sittler's plan was to cut out milk from the diet, to substitute weak tea or albumin water and gradually to work up to heavier preparations. The yeast was given in sweetened water. When necessary the bowels and the stomach were irrigated and other medicines were employed. Under yeast treatment the odor of the stools became less objectionable, and the number of stools was diminished. Vomiting soon ceased. In some cases a cure was obtained when yeast alone was used. In other cases yeast had a beneficial effect when calomel, bismuth, or irrigation had not produced satisfactory results. The weakly acid reaction of the stools favors the action of the yeast. In one case only did the diarrhea become worse under yeast treatment. The treatment can be satisfactorily combined with the administration of bismuth or tannalbin.

In a more recent publication Sittler investigating the stools of infants has determined that yeast with lactic acid and lactic acid bacilli favors the growth of the bacillus bifidus (a favorable organism) in the stools. He states that treatment with yeast, lactic acid, and lactic acid bacilli may be combined to advantage with treatment with the astringents.

A Study of the Mental Life of the Child. Dr. H. Von Hug-Hellmuth. Translated from the German by James J. Putnam, M. D., Harvard Medical School, and Mabel Stevens, B. S., Wellesley. Published by the Nervous and Mental Disease Publishing Company, Washington, D. C. Price $2.00.

This is number twenty-nine of the Nervous and Mental Disease monograph series, undoubtedly the most important series of contributions to psychiatry and neurology which has ever been published. The work is divided into two parts, part one dealing with the period of infancy, divided into the function of the senses in the service of the affective life of the infant; the first signs of volutional activity; the first signs of development of the intellect; the beginning of speech; the development of ethical feelings; and dreams. Part two covers the body and its function in its service of play; the development of the understanding; memory; imagination; reasoning; speech; the emotional life; art in the life of the child; and dreams.

This is a monumental work, the English translation of which will be welcomed by all serious students of the subject. The views of the author faithfully reproduce the work of Sigmund Freud as applied to this period of life. This monograph, together with all that have preceded it, can not be well omitted from the library of those attempting to keep up with the literature on these subjects.

It is said that if anyone be rubbed with the milk of an ass, all the gnats and flies in all the house will congregate upon him.—*Alb. Mag.*

The Wisconsin Medical Journal

Volume XVIII | Milwaukee, July, 1919 | Number 2

ORIGINAL ARTICLES

WORKMEN'S COMPENSATION AND THE PHYSICIAN.*

BY HON. F. M. WILCOX,

MEMBER WISCONSIN INDUSTRIAL COMMISSION.

Wisconsin had the first effective compensation act in America that stood the court test for constitutionality. For nearly eight years the law has been in practical operation. During that period this state has had much to do with the history of compensation in this country, and it is not a mean part that we have been playing. Wisconsin's contribution is of a forward-looking type. It has ever stood for liberal interpretation, liberal administration, and a gradual building up of the benefits and protective features.

Those who have given heed to the development of the system in this country, view the tendency of Wisconsin as distinctly progressive, and it should be. We are yet a long way from the final goal. The benefits are still very much smaller than they should be,—very much smaller than they will be if the system is to endure. Not only must the money benefits, indemnities, be enlarged, but every mother's son and daughter that has to do with its administration must see to it that the benefits fairly accruing to the injured employe reach him promptly, in full measure and without occasioning him misapprehension, suspicion, or distrust.

The immediate responsibility for attaining such purpose rests more largely upon the medical profession than on any other group. The employer, the insurance carrier, the commission, and the general public depend on the physician for right guidance as to kind and character of treatment calculated to restore the injured employe as promptly and as fully as the nature of the injury theless submitting to you the keeping of his limbs, his body, his health, ofttimes his very life, is likewise depending on you for some things of more than passing importance. First of all, he looks to you for restoration in body and limb. Secondly, having given over to you the opportunity to know intimately his injuries, his hurts, his physical defects, his home surroundings, the situation of his family, he depends on you for an even deal when the times comes for rating his disabilities.

The statutes specifically provide that the employe accidentally injured in the course of his employment shall be entitled to compensation from the employer. Compensation is of a two-fold nature: that is to say, medical, surgical and hospital attendance, on the one hand, and money indemnity for loss of wage, on the other. They are inseparably linked. The better the medical attendance, the smaller the indemnity charge. The poorer and more unskilled the one, the greater the other. But as the character of the medical attendance depreciates in quality, the disability and resulting indemnity increase out of proportion; that is to say, the ultimate cost of a given case treated meagerly or unskillfully in its medical aspect is a mighty sight more costly to both employer and employe than if given the best of medical attendance. The difference between major disabilities and minor ones is often just a matter of whether or not prompt, skillful medical attendance was provided. With it, the man returns to his work happy and contented after a few days of inconvenience. Without it, perhaps he spends weeks in a hospital while doctors battle to save his life from an infection that got the upper hands of someone,—more weeks pass while he convalesces; then he is set out to seek another job in competition with laborers who have normal limbs, with his hand and arm covered with the scars of drainage wounds, tendons bound down completely, if not sloughed away, fingers less movable than if artificial, the hand like wood and less useful than the iron hook,—a permanent cripple, broken in

*Read before the Industrial Service Conference, Milwaukee, April 28-30, 1919.

permits, and further, in fixing the measure of compensation disability. But over all, doctors, the injured man who, without choosing you, never-both body and spirit. Meantime his wife and children have barely existed on $9.75 per week. Ultimately the employer and insurer will pay him a couple of thousands of dollars, but if such conditions result from faulty medical supervision and attendance at the time, the dollars they will spend never discharges the debt. The illustration is extreme, and still, doctors, you have known them and I have known them. To this we will agree,—the best is the cheapest. The best is best; best for the injured man, best for his employer, best for the insurer, best for the good name of the medical profession and all concerned.

Now I have two questions to propound: first, how may the best medical attendance be procured under compensation? Second, having provided for a system whereby the best medical attendance is most certainly assured, what can be done, and what must be done, in order to have the system endure? These questions I believe are vital ones, and having asked them for the purpose of answering them myself, may I have your indulgence for a little time while I make clear my thoughts upon the matter, and endeavor to let you see, as I see, this field of medical selection under compensation, and the ends to which we are traveling.

Answering the first question, I declare myself unhesitatingly in favor of the Wisconsin plan of leaving to the employer the right and the duty of selecting the medical attendance. The act provides that the employe shall have "such medical, surgical and hospital treatment, medicines, medical and surgical supplies, crutches, and apparatus, as may be reasonably required * * * for ninety days immediately following the accident, to cure and relieve from the effects of the injury, and for such additional period of time as in the judgment of the commission will tend to lessen the period of compensation disability, and, in addition thereto, such artificial members as may be reasonably necessary at the end of the healing period, the same to be provided by the employer."

All will agree that the aid, whether given the injured man by the doctor, hospital or nurse, should be as prompt, skillful and complete as the nature of the case requires. Who, then, is best able to judge of the needs of the injured and the capabilities of those selected to attend those needs, the employer or the employe? I am perfectly sure that in the great majority of cases the employer is best suited for the task. Back of him is a great volume of experience with physicians, an intimate knowledge as to their reputations and skill, a keener appreciation of the results of scanty or unskillful attention, and the faculty of determining emergency questions of any proportion right off the bat, with real vision of the results of his decision. It is rare indeed that the employe would have experience so fully fitting him to select the attendance. The times when he has had to assume the responsibility of selecting a physician for attendance upon accidental injuries are nil, at most just a few times in a life time. The commission estimates that there are substantially 300,000 employes subject to compensation in Wisconsin. This number of employes annually sustain approximately 20,000 accidents occasioning a disability of more than one week; that is to say, one such accident per year for every 15 employes, or one such accident every 15 years per employe. So much for the employe's opportunity for individual experience in the matter of selecting physicians. In this state, however, 150,000 employes, 50 per cent of the entire number, are in the employ of 500 employers, an average of 300 employes per employer.

It follows that every such employer draws a considerable accident experience in his plant, and because of such experience, he sees the necessity of anticipating the danger and being prepared for it. He has his course well thought out in advance. He plans for the care of those who are injured in his plant, with the same caution that marks the course of the public in providing fire escapes from public buildings, fire drills in public schools, fire departments in every community, with the same caution that he exercises when he puts safety appliances on dangerous machines. Is it to be argued that the man who speaks little or no English, who, from circumstances and environment, has hardly known a doctor or a nurse to cross the threshold of his home, is better able to judge his need in case of accidental injury than his employer, who in anticipation of just such an emergency, has provided a first-aid hospital in his plant and put a skilled nurse in charge of it? As men and women of affairs, will you not say that I am right in my conclusion?

I know that many employes, many well-meaning persons who interest themselves in affairs of the working classes, many doctors, usually, how-

ever, those who have not been called upon by employers for service, condemn the system that permits any one to select a physician except the one person most vitally interested in the treatment,—the injured man himself. Surely I am not chargeable with lack of sympathy for injured men and women. I work long days and pass restless nights planning how best, within the fair limits of my authority, to serve the employe whose body and limbs have been mutilated and who is complaining of the situation in which the industry and the law have left him. I want to do the thing that is best for him. I want to reach my decision with respect to his medical attendance, absolutely independent of any question of whether the money cost is more or less under the one or the other plan of selection. I want to stand for the system that will bring him the fullest and largest measure of physical repair possible. I want him to have the service of the skilled surgeon for his fractured limb, rather than advice of the man who does not have the ability to recognize the condition and so prescribe liniments and exercise. I want that he should have the aid of the eye specialist for his injured eye, rather than the attendance of some physician in the neighborhood whose special qualifications run to treatment of stomach disorders. I want to see no skimping in the use of the X-ray. I want the man to have hospital care instead of being left in an insanitary rooming house that jeopardizes his recovery. I want the attendance, medical, surgical and hospital, to be so chosen for the case in hand that real skill is present. There should be no misfits, no opportunity for charging that the physician or other attendant was endeavoring to treat a case that was beyond him. The day has not yet arrived when any man can treat every human ailment well. There is no place in a system that permits a footing for the alleged doctor whose office sign states that he "specializes in diseases of men, women and children."

It is because of the relative position of the parties and their opportunities for judging the needs of an injured man that prompts me to pin my faith to the employer for the doing of a good job, and the same applies to the employer's insurer. Of course if they discharge the obligation of medical selection with a sordid, brutal disposition,—do it from the feeling of compulsion rather than duty—they will make a sorry mess of it all, and no employe ought to hazard his chance of recovery by submitting to treatment so selected.

The commission has had opportunity to judge of the character of selection employes make for themselves. Where employers permit them the choice, or where they select a physician independent of the one tendered by the employer, it is more frequently than otherwise found to be a man of lesser ability, and where the injury requires the attention of a specialist, they commonly depend upon the ordinary practitioner. I am perfectly sure that employes in Wisconsin now have a much better quality of medical, surgical and hospital attention than ever before experienced, and that they are getting better attendance than comes to employes under a system by which they make their own selection, even though they understand that the reasonable value of the service is chargeable to the employer.

I come now to the second question, which in view of my answer to the first one, is substantially this. If the employe is more certainly assured proper medical, surgical and hospital attendance by leaving the selection of service to his employer, what can be done and what must be done in order to have the system endure? And in this question and its answer, men and women, we have the crux of the whole works.

You query why there should be a doubt as to the continuance of the system of selection by employer if, as I am contending, it is the better plan. I answer this wise. A change is in the air. Dissatisfaction with the present system is rife among employes. Many attorneys are protesting against it. The doctors themselves as a rule do not approve of so select a system that comparatively few of them get a "look-in" on the industrial accident practice. Even employers write to the commission urging that their insurance carriers ought to loosen up and give their men the opportunity to make their choice from a list of three or four accredited physicians to be named by the insurer. As a member of the commission, I tell you there are breakers ahead. Someone is riding for a miserable fall.

Expression of this dissatisfaction is seen in the bills now pending in the Wisconsin legislature. In the Senate a few days ago, by a vote of 24 to 4, there was passed a bill (No. 237-S) giving to any injured employe the right to demand that his employer provide him with Christian Science treatment, and if I did not greatly misjudge the

temper of that body, I think the advocates of that bill might really have gone further and procured the senate to allow the employe in such a case to select such treatment for himself. I heard a part of the discussion, and there was plenty evidence of the thought that employers and their insurers had been too intolerant with respect to the rights of those employes who adhere to the Christian Science doctrine.

There is a bill pending in the assembly (449-A) giving over to the employes in all cases the privilege of selecting their own medical and surgical attendance, and imposing upon the employer the obligation to pay the reasonable cost of such attendance. It will have supporters in both legislative bodies. An effort was made in 1917 to make the same kind of an amendment to the committee bill. The legislature gave me the opportunity at that time of appearing before the joint assembly and discussing the question. I urged upon them the advantages obtainable under the present system, and counseled them not to make the change. Someone will have to present the advantages to this legislature, and at that time answer the criticisms.

Another bill (387-S) provides that "no physician employed by any employer, excepting the state or any county, city, town, village or school district herein, shall be permitted to testify as an expert witness at any hearing before the commission." That bill is predicated on the thought that the physician who renders service, surgical or medical, to the servants of any employer, in the employer's pay, is likely to become so prejudiced in favor of the employer and against the employe that he may not be permitted to give his opinion as an expert witness in any proceeding under compensation. Such a bill ought not pass. As a body, the physicians of this state are not chargeable with such bias as the bill indicates.

I think I can convince you, however, that these criticisms, these proposed bills, are born of definite, tangible shortcomings in the present system as it is being worked in this state. It is provided by general statute that physicians shall not be allowed to disclose any information which they may acquire while attending a patient in their professional character. It was the very evident intention of the legislature that physicians be expected to recognize similar restrictions under compensation, and that the injured be protected from voluntary disclosures on the part of the attending physician. The commission regards the physician who treats an injured workman at the request of the employer, to all intents and purposes the physician of the injured man. The confidential relationship, however, does not mean that the physician shall not be expected to give to the commission and parties such information as may be reasonably necessary to determine the extent of disability. This position is definitely provided for by the act itself.

But physicians should not be required to disclose confidential communications made to them for the purpose of treatment and which are necessary to a proper understanding of the case. Much less should they think of volunteering such information to others. The principle underlying the general statutes should be preserved in its integrity. If the best results are to be obtained in the treatment, the attending physician must have the injured man's confidence. And having gained that confidence, and by it and by the opportunities that come with the attendance, having come into possession of most intimate knowledge as to the man's physical condition, he should maintain absolute fidelity to his patient and volunteer nothing that in his judgment would be unethical, without at least first submitting to the commission's ruling.

Is it to be supposed that injured men will retain confidence in the physician who assumes that he is the physician and representative of the employer, who takes on the attitude of an advocate of all interests adverse to them in compensation hearings; who pries into their personal affairs in the course of the attendance and then promptly spills the information to the insurer and who volunteers it at the hearing; who spies upon them as they go about, and reports his observations like a trained investigator. If these things are being done to any marked extent, are there those employers or insurers or physicians who think that a system that permits it has many years to live?

Fortunately, and to the great credit of the medical profession, there are not many cases of bald misconduct. And still there are a sufficient number of them so that when reviewed by employes in connection with those cases where, unconsciously or otherwise, physicians are falling for the employer's assumption that they are in fact his physician because in his pay and expected to display rather particular interest in such employer's side of any controversy that may arise, they create the

gravest kind of suspicion on the employe's part. They are outraged by the law which forces them to submit to treatment by a physician whom they feel they have reason to believe is to be aligned against them if dispute with the employer or insurer ever arises. They carry their grievances to other workmen, who are quick to resent injustice, and in common they protest the whole system.

What do you say as to the propriety and ultimate consequence of the attending physician sitting at the elbow of the attorney for the employer or insurer, suggesting questions and helping to frame others to be put to witnesses for the purpose of breaking down the injured man's claim? It is not an infrequent occurrence.

What about the report of the attending physician made to the employer or insurer, volunteering detailed information as to other diseases which the man has and which perhaps aggravate the condition, with whole paragraphs arguing the so-called shame of the situation that increases the liability of the employer because of the prior disease? We have such reports in our files, offered by the parties to whom they were made.

Just how would you size up the interest of the physician who usually picks out Saturday as a day for discharging injured men as ready for work, knowing full well that they have no opportunity to try out their strength until the following Monday? Or the physician who invariably finds the injured man able to resume work after twenty-eight days, instead of after twenty-nine days disability, incidentally leaving the employe just behind the indemnity money for the waiting period? Would you say that this man was the physician of the injured employe, or of the employer or the insurer? Whose doctor is he? The commission often has to pass on just such situations.

At a meeting which the commission had with the representatives of Wisconsin insurance carriers in December, 1913, on motion of the attorney for one of the largest companies, it was determined to be the sentiment of those present that while the privilege of selecting the physician was reserved to the insurer, that in all other respects the physician should understand his relation to the employe to be the same as if the employe had made the selection for himself. Be it said to the credit of that attorney and to the credit of many others who were at that meeting, they have maintained a policy consistent with the letter and spirit of that argument.

On the other hand, there are many evidences of a feeling on the part of employers and insurers that are in virtual opposition to such policy, and likewise ear-marks of a growing tendency on the part of physicians to yield to the idea that they are not working subject to the usual obligations of physician to patient.

It is not by choice that I raise criticism against any physician of this state who has been called by an employer or insurer to treat patients under compensation. But real regard for the great majority of them, and for the skill and ability with which they have attended the many thousands of injured men and women, and a desire that the system of selection by employer be continued, suggest to me the necessity for urging an inventory of the general policy followed, and if, as I have indicated, there are tendencies reasonably calculated to prejudice employes against the present system, let us get back into that track where the injured is made to feel that he is not only having the best of attendance, but an even deal in the determination of his disability.

And to such end employers and their insurers should give their support. They cannot solicit or accept partisan service from the attending physician without assuming full responsibility for over-reaching the employe. The injured workman will rarely suffer loss of compensation where the physician becomes an advocate of the employer's cause, rather than an impartial reflector of actual conditions. The commission gives the opinion of the over-zealous physician who has forgotten his professional obligation to his patient and becomes an advocate of the employer's cause, about as much weight as a partisan opinion merits. He is in much the same class as that other expert witness, the physician who sees in relatively simple injuries excuse for making extravagant claims of near permanent total disability. In each instance, instead of materially aiding the commission in reaching right conclusions, their opinions are without influence and the opinions of the really impartial physician must be sought.

No physician is likely to have 100 per cent success in the treatment of industrial accidents. Some cases will not fully respond to his treatment, and results will not tally with his hopes. Regardless of his freedom from fault, he must nevertheless bear the responsibility. A tale of rank neglect and mistreatment on his part is peddled from mouth to mouth among the plant employes. Such

distrust grows up that no end of good results can dispel the feeling. And then the man who has honestly come to believe that the plant physician is without skill is compelled to come under his care. It's a poor start. The doctor is seriously handicapped. He must battle against the patient's misgivings as well as the injury, for if the man recovers it will be contrary to his expectations. The psychic effect upon the injured man is genuinely bad.

So I conclude that if the present system of medical selection by employer is to endure, employers on their part must not in general restrict the situation so that there is not opportunity for the employe to have something approaching a choice. It is not usual to find a situation forbidding the naming of two or more physicians, either of whom the injured may have to attend him at his option. This should very largely do away with the dissatisfaction now displayed by injured employes when told that it is this physician or none, and still insure proper treatment. A little more consideration for the injured man's feeling will be a good investment.

Then, again, employers must always respect the doctor's obligation to the injured man. We do not find the protest against the present system of medical selection founded upon the claim that it gets unskilled treatment for men, although that is the important function of the physician. The protests rather are born of the thought that while you employers and insurers are interested in having the man cured of his injury, you nevertheless expect partisan service from the doctor when it comes to rating the compensation disability, because you are paying the bills. You pay the bills because the statute requires it as a part of the employe's compensation, and such obligation gives you no inside call on the doctor beyond skillful treatment itself.

Again, the law provides that the medical service shall be such as to "cure and relieve from the effects of the injury", and the employer who has exercised his privilege of selecting the physician should not assume to dictate the kind of treatment. That is the province of the doctor. He is to cure and relieve the patient. The law and his professional obligation fix the limit of the treatment, and it is not a question of the cost.

As for the industrial physician and surgeon, I charge you with notice that the present system of medical selection by employer will not endure long unless you maintain a perfectly non-partisan attitude. The attorney for the employer or insurer is quite as able to present his case as is the injured man, without taking you on as associate counsel.

Again, your province is to heal the man of his injuries, not to act as an investigator. The discharge of a man as ready for work on the twenty-eighth day after injury is open to the same degree of suspicion as is the return of a man to work on the thirtieth day after injury, when all other indications pointed to his ability to work at the end of two weeks. The extent of the disability and the ability to work as estimated by the attending physician must not be colored by what indemnity results are to attach. In its final analysis the system is only saved by actual demonstration that the attending physician is primarily concerned with the injured man's recovery, and that beyond that he maintains absolute impartiality.

As for insurance carriers, their obligation in the matter seems clear to me. They are representatives of the employer. They are the medium through which the employer pays his debt to the injured. They have no right by any over-restrictive or intolerant method of exercising the employer's privilege or of discharging the employer's obligation, to jeopardize valuable rights secured to the employer under the act. The privilege of selecting the attending physician is a valuable right of the employer. To that privilege peculiar obligations attach,—the obligation of recognizing the feelings and the sensibilities of the injured workmen, their personal privileges and their legal rights. To the discharge of these obligations for the employer, no insurance carrier has license to falter, much less fail.

Lastly, I re-assert my belief that men and women, injured in Wisconsin under compensation, have on the whole enjoyed exceptionally skilled medical attendance. It has been of better quality than is possible of attainment under a plan of selection by the injured employe. The cure and relief which skilled attendance brings the injured employe is of far more importance than a few weeks of compensation. I do not want to see the medical benefits lost in any measure. In the matter of medical service in the adjustment of compensation disability, determining weeks, figuring dollars, we are drifting carelessly, dangerously; we are losing form. Insignificant as this medical witness service is when compared with the cure this same medical service has wrought, it is nevertheless un-

dermining the system by which the greater good has heretofore been secured. That is my honest belief.

If I am right in my conclusions, do the employers and insurers and the industrial physicians and surgeons of this state think it worth while to do the things necessary to save the privilege of medical selection to the employer, and to re-establish that system in the minds of employes as an honor system? The problem is yours.

A NORMAL SHOE FOR A NORMAL FOOT.

Can the shoemaker build a shoe that will keep normal a normal foot? And having built it will the public be brought to see the beauty of the product? Not so many years ago we gave our admiration to the small, tightly laced waist. Today we laugh at it and tomorrow we shall be equally amused by the pencil-point toes and high heels that tilt the human foot to the angle of a horse's hoof. The war made low heels beautiful on Fifth Avenue, and consequently on Main Street; if it had lasted a little longer, women would, of necessity, have gone the whole way with the shoe problem. The shoes of the future will not be "prescription" shoes, they will not cater to deformities, but they will be built to conform to the normal lines of the foot.

The National Board of the Young Women's Christian Associations through the Health Division of the Bureau of Social Education, has started a drive to get this shoe for American women and to popularize it. The Associations have all the health arguments. They have a national membership of four hundred thousand women to listen to them, but they cannot get this shoe without the co-operation of the manufacturers and dealers who make the shoes and determine the styles. To bring about this co-operation, a conference with leading shoe men was held recently at the National Board Y. W. C. A. headquarters in New York.

The manufacturers have a difficult problem, but not an impossible one. They must produce a low shoe. with a low heel and a flexible shank that will allow enough exercise of the muscles of the arch to keep them strong, a shoe with enough room for the toes and a straight inner border because the foot is naturally straight on the inner side. They must make the shoe attractive to the discriminating taste by using their knowledge of leathers to procure variety and fineness of finish for both day and evening wear. Will the shoemaker do it? When he does, the National Board of the Young Women's Christian Association will be back of him. Every woman who wants to wear the "normal line" shoe must be able to get it. All samples of shoes will be examined, an alphabetical list made, according to States and cities, of all the firms that carry these shoes.

This list will then be sent to local Associations all over the United States, so that no one can say, "We would like to get these shoes, but we do not know where to find them."

A PLEA FOR MORE AGGRESSIVENESS IN THE TREATMENT OF CHRONIC GASTRIC ULCER AND GASTRIC CANCER.*

BY KARL DOEGE, M. D., F. A. C. S.,

MARSHFIELD CLINIC,

MARSHFIELD.

In this paper it is intended not merely to discuss the surgical treatment of chronic gastric ulcer but to present arguments in favor of more aggressiveness in dealing with certain of its numerous complications, such as stenosing scars, ulcus tumors, perigastric adhesions, and perforating involvement of neighboring organs, and also to define the limits of our surgical endeavors in dealing with gastric cancer.

There would be no need of this paper if we all had the experience and skill of a Mayo or Murphy whom I could teach nothing and who would need no urging on my part to be aggressive, if circumstances demanded it. I may state at the outset that in the preparation of this paper I do not aim to address myself to men of *this* type. Nor on the other hand is this paper addressed to the physician whose surgical activities are confined to emergency cases, far and between. Neither is it meant to unduly encourage to bolder endeavors the ambitious neophyte in abdominal surgery to attempt operations for which his surgical skill is, as yet, not sufficiently developed. It is addressed principally to that class of good general surgeons of whom we have a great number in this state, who possess a good abdominal technique, who do a gastro-enterostomy easily and creditably, and yet, who might hesitate to go beyond this latter operation, pinning their faith and limiting their endeavors to the once much heralded and all curative powers of the gastro-enterostomy in any and all cases of gastric ulcer. I wish to dissuade you just as I had to dissuade myself from the belief that to merely drain the stomach by a properly placed gastro-enterostomy is the mainstay and the only desideration.

While this operation may be considered the "Normalverfahren", the basic operation of gastric surgery, there are many amplifications, essential addenda, to this method which add to its efficiency,

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*Read before the Wisconsin Surgical Society, Milwaukee, May 18, 1919.

without which greater success, if success at all, could not be attained.

Surgery should assert itself in the treatment of chronic gastric ulcer only when internal medicine has failed and when certain complications have arisen. A few of these complications are so clearly surgical as to allow no room for discussion, and a happy unanimity of opinion exists as to the mode of treatment. Thus acute perforation of a gastric or duodenal ulcer permits of but one choice, that is to open the abdomen at once, and to find and to close the perforation. A similar unanimity of opinion exists in cases of pyloric ulcer with pyloric stenosis. Here an artificial and permanent outlet for the gastric contents must be formed, and here it is, where a simple gastro-enterostomy alone suffices and is followed by its most brilliant results. The indications for operation for all other forms of chronic gastric, non-stenosing ulcers must be found in such manifestations as persistent vomiting, severe hemorrhages, continuous indigestion, leading to loss of weight and invalidism. As to the method employed in non-stenosing ulcers, unfortunately, no such unison of opinion exists among surgeons, as in the cases mentioned above. No doubt, very frequently, a mere gastro-enterostomy will be followed by a cure. However, not infrequently, after a short period of improvement, some of the old symptoms of pain, hemorrhage and indigestion will recur. Simple gastro-enterostomy here is not a universal remedy and when employed alone the results are often disappointing. D. C. Balfour in the Annals of Surgery of June, 1918, writes: "It is well known by Surgeons of experience that operations (meaning gastro-enterostomy) for gastric or duodenal ulcer which have been associated with bleeding do not always obviate later gastric hemorrhages."

The two requisites in the healing of all wounds: To prevent further irritation and to provide for physiological rest, are certainly not fulfilled in these ulcers by the performance of simple gastro-enterostomy. The highly acid gastric contents still continues to irritate the ulcer surface and the well marked tendency of the food current to persist, to a great extent, in taking its course through the pylorus in spite of a large enterostomy opening, is well known and can readily be demonstrated by a fluoroscope. Through non use the artificial opening may become smaller and smaller until eventually it is evident that the subsequent condition varies but little from the pre-operative state of affairs as far as the direction of the food current is concerned and with it the old complaint will return.

That many ulcers do not heal by this method cannot be denied, but it is probably owing to the fact, that the partial physiologic rest induced by the gastro-enterostomy and the lessened acidity and shorter exposure as to time of the ulcer surface to the acid contents, may yet be sufficient in some cases to permit of permanent healing, especially if followed by a careful and prolonged post-operative internal treatment. In many and especially in the severe cases this operation alone apparently does not suffice. More than mere draining of the stomach, more than a mere gastro-enterostomy is necessary. The simple infolding of the peritoneum over the surface of the ulcer area by means of Lambert sutures has been suggested, to be done with or without a concomitant gastro-enterostomy. Another more radical and apparently more direct plan, is to completely excise the gastric ulcer, when such is possible, and to suture the stomach transversely. This also with or without gastro-enterostomy. The method is certainly applicable in a good many cases. But if the ulcer is of any side at all, the operation often leads to important alterations in the shape of the stomach, which at a later period, may seriously interfere with the proper emptying of its contents.

Next to the pylorus, the lesser curvature, is the most frequent seat of gastric ulcers, and it is here that excision has been particularly practiced. But if the ulcer is large it draws the pylorus very close to the cardiac orifice when the suturing is completed, creating a sack-like form of the stomach, and with it most unfavorable conditions for proper evacuation of the gastric contents. Thus while applicable to small ulcers, in larger ulcers it should never be done without an accompanying gastro-enterostomy to insure against stasis.

In the June number 1919 Annals of Surgery, Dr. D. C. Balfour, of Rochester, has published a method of cautery excision of the gastric ulcer, claiming distinct advantages over the knife excision, as regards ease of performance, lessened mutilation of the stomach, and better end results. I certainly would advise a careful study of this article.

The happy unanimity of opinion as to the method of dealing with a stenosing gastric ulcer of the pylorus has been commented upon above and the very efficient results obtained by a simple

gastro-enterostomy have been noted. It is well to remember, however, that a stenosing ulcer is one with a strong tendency not to spread, but to heal, and when healed leaves a contracted scar causing practically a closed and excluded pylorus, thus explaining the entire efficiency and permancy of the gastro-enterostomy. Not so with the non-stenosing ulcer.

It probably is a generally admitted fact that the effect of the food current upon the ulcer is irritating and eminently deleterious and if done away with would lead to better results. Bearing this in mind, it has been suggested in non-stenosing ulcers of the pylorus, to exclude all or part of the pyloric antrum from the food current, by occluding the antrum. This would inevitably force the food in the desired direction. To accomplish this the tissues are crushed orally from the pyloric ulcer and a ligature applied shutting off the antrum from the main part of the stomach. To this of course a gastro-enterostomy is added. Also complete division, and closing of the divided ends by sutures has been practiced, with the same end in view. There is no doubt of the efficient influence of such proceedings upon the healing of the ulcer. Yet even this has not always prevented subsequent hemorrhages nor the occasional development of cancerous growth on the site of the ulcer.

It would seem from a recapitulation of the various methods advised, that certain deficiencies, limitations and uncertainties as to results, are common to all of these. Add to this the known inability of the surgeon to get invariably by palpation a correct idea of the amount of pathology present inside the stomach, especially as to the number of ulcers present, as to their depth and tendency to hemorrhage or perforation, and especially as to the all pervading question whether the ulcer is associated with cancer or not, the decision as to what is the proper course to follow in each individual case may become perplexing indeed.

This latter question has held the attention of pathologists and operators for many years. The opinions, as yet, seem seriously divided, if we consider that the Mayo Clinic has reported as high as 68% of gastric cancers as arising from, or associated with ulcer of the stomach, while others, especially continental pathologists give figures as low as 2%. In my own but limited practice, though extending over a period of about 30 years I am not aware that I have ever seen a case of undoubted gastric ulcer, develop into a cancer though a few of these ulcers have been observed over a period of more than 15 years. In an article on the relation of Gastric Ulcer and Gastric Cancer, Dr. James Ewing of Cornell University says "That clinically speaking in order to assume that a cancer has developed from an ulcer, it must be shown that the patient had a distinct ulcer history for many, say 8 to 10 years." That cancers readily become ulcerous is a well known fact, and corresponds with the nature of cancers in all other locations of the body, uterus, breasts, lip, tongue, larynx, and rectum. Why should the relation be reversed in the stomach? Ewing believes that it is much more likely that a cancer becomes ulcerous than that an ulcer becomes carcinomatous, and that the occasional association of both is probably not more frequent in the stomach than anywhere else.

In later years and as a result of the foregoing considerations, resection of the stomach more and more has been the method of choice by many surgeons. There is no doubt about the added mortality of the resection operation, and yet it probably is not as great as was thought at first. It must not be forgotten that the stomach wall forms splendid material for suture as well as for plastic work. With better methods and more experience the added risk to life of a stomach resection already has become but slightly more than that of a simple gastro-enterostomy and distinctly less than this operation plus the above mentioned amplifications to meet certain conditions. A little more aggressiveness here, without doubt, will lead to better results in the future and this aggressiveness becomes imperative if we subscribe to the teachings of Rochester that 68% of all cases of cancer of the stomach are based upon chronic ulcer. No matter, however, whether we believe in the 68% of Mayo or in the 2% of the continental pathologist, resection of the ulcer bearing area, as so persistantly advocated by the late Dr. Rodman of Philadelphia, with a posterior gastro-enterostomy added would seem to promise better results in severe cases of chronic gastric ulcer than all the other methods mentioned.

Another class of cases, where I would advocate a little more aggressiveness, are those chronic perforating ulcers that have involved either liver, pancreas, bowels, or anterior abdominal wall or all of these parts, and where inflammatory deposit forms a large so-called ulcus-tumor. If we are faint of heart we may well shrink from the magni-

tude of the technical difficulties to be encountered. Yet it is not so bad. An incision from the ensiform cartilage to the umbilicus will give us an opportunity to palpate the mass, to orient ourselves and to determine the extent of the adhesions. To get more room, cut laterally through the rectus and all the tissues up to the costal margin. If the anterior wall is grown to the stomach and you suspect a perforating ulcer there, do not open the ulcer but cut around the adhesions and leave parts of the abdominal wall attached. If the liver is drawn into the mass, remember that the inflammatory process has replaced the liver cells by fibrous tissue which can be cut and sutured without much bleeding. To get at adhesions posteriorly, work your way through the gastro-hypatic omentum above the lesser curvature or through the gastrocolic omentum below and palpate the entire posterior stomach wall. Adhesions to the pancreas must be separated without injuring that organ and if the ulcer has infected pancreatic tissue gently curette the base of the ulcer, apply carbolic acid and alcohol and plug and cover with a piece of omentum. If the colon is seriously involved or perforated resect it and above all, when everything is done as well as you can, close the abdomen and do not drain.

Passing now from the consideration of gastric ulcer to that of gastric cancer it is well to remark that cancer of the stomach and intestine, during the last decade, has become one of the most fruitful and successful fields for operative surgery. While formerly it was considered a *noli ne tangere,* we are now able to affect relief in the vast majority of cases, and a definite cure in a surprising large percentage of instances. That malignant growths of the cecum, colon, and sigmoid flexure now offer a most favorable prognosis for surgical intervention is well known. As the technique in this line of work has improved, the limits for surgical attack have been successively widened. It must be a far advanced and neglected case, indeed, that would cause a modern abdominal surgeon to shrink from the attempt at cure. The technical difficulties in bowel work have been overcome so thoroughly that a bowel resection for cancer holds nothing especially serious in it. It is a well known fact that cancerous abdomen will withstand extensive operations surprisingly well, even though the patient is cachetic and is losing strength to a large degree. The peritoneum reacts most kindly to severe handling and the amount of shock produced is much less than is usual in operations of similar magnitude in non-cancerous abdomen. Why this should be so, has to my knowledge never been satisfactorily explained, and is a matter for speculation. It is possible that the low degree of sepsis produced by the cancer and by the gradually oncoming gastric or intestinal stasis, induces a certain degree of immunity in the peritoneum. That such, we may say local areas of immunity exist in the body, or can be acquired, we know and as examples may be mentioned, the perineum, the mouth, and the anterior urethra in man. Here extensive operative procedures may be done with but very inconsiderable risk to subsequent infection.

The first problem that confronts us in dealing with cancer of the stomach will be the determination of its operability. If, the diagnosis of cancer once established, external palpation shows metastasis or reveals a nodular tumor mass in the liver, or the presence of abdominal ascites can be demonstrated, it is probably useless to even open the abdomen. If, however, these conditions do not obtain, only visualization and actual intra-abdominal palpation can decide the question of operability. Now it is well to remember that our decision concerning operability is by no means gauged by the size of the gastric cancer, for a large tumor may be easily operable and a small one not at all, but by its involvement of neighboring organs and by its metastasis. Nor should the presence of great cachexia necessarily restrain us from operating, for when the sloughing cancer is removed, the cachexia will soon disappear, for cachexia is not the result of the cancer but only appears when the tumor becomes ulcerous and breaks down.

Nor is it the length of time that a carcinoma has existed, as judged by months or years that the patient has complained of his stomach trouble, that should render it inoperable. On the contrary Boas has shown that the long lasting slow growing scirrhous carcinoma offer an exceptionally favorable prognosis in case of resection. Thus neither size, cachexia nor period of existence are important factors in the determination of operability. The extent of involvement of neighboring organs and the presence or absence of metastasis alone decide the case. Being convinced, that the mere knowledge of the fact that the patient has a gastric cancer, only too often deters us from making such serious effort to save or even to prolong his life as we do in cancer of the breast, uterus,

etc., I would like to impress my hearers by stating, that we have probably sinned too often by timid and unnecessary conservation than by aggressiveness. To remedy this, it is our object to mark the limits of operability as widely as possible, and it therefore becomes imperative to make our intra-abdominal examination as thoroughly and conscientiously as can be done. If on opening the abdomen ascitic fiuid escapes it is well to examine the peritoneum for cancer nodules. Feel of both surfaces of the liver for secondary growths can easily be felt in the liver substance. Above all note the extent of the growths on the stomach itself and its involvement of neighboring organs. As long as the cancer is limited to the stomach no matter how much of the stomach is involved, so long the tumor is operable and resection of the stomach should be done. If the tumor is free and easily brought out of the abdomen, it is probable that favorable conditions for resection exist. If however, the tumor is not readily delivered, no doubt important adhesions to other organs obtain. To properly judge the extent and severity of these adhesions is the next step in determining the operability of the cancer. Very often the lessened mobility of the gastric cancer depends upon the presence of enlarged lymph-glands and lymph-vessels along the course of the big arteries on the upper and lower curvature and upon the involvement of the lesser omentum. Enlarged lymph glands in the left side of the neck are said to denote serious involvement of the lymphatic system. A growing of the tumor into the colon is no contra-indication to operation as resection of the colon in one piece with the stomach and the lymph-glands of the lesser and greater curvature may give most excellent results. Involvement of the pancreas is always a contra-indication for operation unless but a very small portion of the latter is to be resected. When the resection of a larger piece of the pancreas is undertaken, it should be excised wedge-shaped and the stump stitched tightly, and deeply buried into the lumen of the duodenum. In a recent case of mine when nearly half of the pancreas was resected, and the stump closed by suture and covered by omentum, the patient died very promptly from acute fat necrosis. At autopsy there were distinct areas of fat necrosis around the stump of the resected pancreas. It is possible that to bury the stump into the bowl may obviate this danger to some extent.

Involvement of the mesentery of the small bowl by the cancer is not rare, and should always be looked for in determining the operability of a gastric cancer. It is readily detected by pulling up on the colon and omentum and noting the dimpling on the under-surface of the mesentery. If present it forms an absolute contraindication to the operation of resection of the stomach. By thus carefully and systematically examining the stomach and its environment we are often able to determine the positive operability of a gastric cancer, which at first sight seemed inoperable.

The choice of operation for the cure of gastric cancer can of course be only a resection. However, the great value of a gastro-enterostomy as a paliative measure to relieve the stenosis, caused by a pyloric cancer can not be overestimated. The wonderful improvement possible is this dread disease where pyloric obstruction co-exists must be seen, in order to be fully appreciated. Pains, distress and cachexia disappear temporarily, giving the patient an added lease of life for which he is truly thankful. There is of course no benefit derived from the performance of a gastro-enterostomy unless an obstruction is relieved by it and to perform it as a routine measure when resection is impossible or contra-indicated would be the height of folly. In a recent case of mine when the tumor was small and movable, situated at the lesser curvature, causing no stenosis and but very little pains but where metastasis in the liver were present, I did nothing but close the abdomen again. Resection though possible was not indicated on account of the metastasis in the liver and gastro-enterostomy could do no good because no stenosis was present.

If as a result of this paper I shall have caused some of my hearers not to pin their entire faith on a simple gastro-enterostomy for the cure of chronic gastric ulcer and if any effort will induce you not to regard every well developed case of gastric cancer as incurable and inoperable but to make an effort at cure in spite of difficulties I shall feel gratified indeed.

Let not wine be left in any cellar in an open vessel, for that it is known that serpents and toads do lick up that wine, and their saliva being upon the vessel shall mayhap poison another.

—Petrus d' Apono, De Venena.

THE OVER-TREATMENT OF NEURO-SYPHILIS.

BY D. W. ROBERTS, M. D.,

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In selecting the subject of the over-treatment of syphilis of the nervous system, I feel unfortunate in the poverty of words which will not permit me to adequately express the theme to which I have subscribed. Possibly it would have been better to have said the under-treatment of the patient who has nervous syphilis, or the neglect of the natural defensive powers of the body in combating syphilitic infection. Anyway I solicit your attention and kindly criticism of some of the conclusions that have been ground into me by the wheels of experience, the cruelest but greatest of all teachers.

In 1913 I was in New York for special training at the Neurological Institute and there, under the influence of such distinguished neurologists as Peterson, Collins, and Bailey, including their able clinic chiefs, Ogilvie, Casamajor and Kennedy, I soon became a convert to the different methods of intensive treatment of neuro-syphilis, and possessed with the most exalted therapeutic enthusiasm, I returned to my work with a feeling that it would take me about one year to cure all the neuro-syphilis in my state. Immediately all of the nervous syphilis was placed under my supervision, and nothing was left undone that would add to the success of my therapeutic crusade.

The patients naturally fell into two classes: Those who required hospital care, because of their corresponding physical condition, and those who were ambulatory. So after one year had gone by I began to note that the patients who received hospital care, notwithstanding their unfavorable physical status, made more favorable improvement both laboratorily and clinically, than those who were up and around doing routine ward work, so I was definitely convinced that the more attention you give to the building up of the individual's physical condition, and the consequent improvement of his natural defensive powers, the more favorable results would ensue from the specific treatment.

By this time it was permissable by the ancient custom of medical tradition to write a paper reporting my results and conclusions, so accordingly, in collaboration with Dr. Lloyd Thompson, our serologist, I reported sixty cases (Arkansas Medical Journal, August, 1914) and I must say that our results compared favorably with other reports at that time, but how different it was in reality as to what I had dreamed it would be one short year before. Well, anyway, I was thoroughly chastened therapeutically but not discouraged, and have received the greatest inspiration from the wisdom of Sir William Osler who says: "Know syphilis in all its manifestations and relations, and all other things clinical will be added unto you."

During the last three years, in my service at the Sanitarium, I have seen a large number of neuro-sphilitics who had been given intensive treatment for months and permitted to perform at the same time their usual duties until the effects of the mercury and arsphenamin had produced such a physical status that was incompatible with even reasonable health, so they had been advised by attending physicians to take a few weeks rest, as they had now received the required amount of arsphenamin.

These are the most pathetic cases imaginable, and as a rule under absolute rest in bed, forced feeding, eliminative and tonic baths, with massage and general tonics, make satisfactory improvement.

These cases were not difficult for me to understand, as a few years before I had, by my own intensive and enthusiastic therapy, produced the same physical status in neuro-syphilitics of a more advanced stage, and because of their hospital status I was unable to send them away for rest and consequently was compelled to give more attention to the individual's power of resistance and clinical improvement, and less was made of the positive Wassermann in the fluid. Such experience was indeed fortunate for my future patients, as it has added materially to their life expectancy.

I know that there are a large number of excellent neurologists and syphilographers who will not agree with me in my conception of the conservative and rational therapy of neuro-syphilis, for they will tell you that it is better to overtreat ten cases than to undertreat one, to which I answer it is better in these cases to know what not to do than to know only what to do.

In the July number of the "American Journal of Syphilis" Dr. A. Scott Worthin, professor of Pathology and Director of the Pathological Laboratories at the University of Michigan, has

published an original article entitled: "The New Pathology of Syphilis," which is the most illuminating and instructive scientific contribution to the subject of syphilis that has as yet appeared, and marks a new epoch in the understanding of this universal chronic infection.

Worthin says "that the new pathology of syphilis is based upon the demonstration that the essential tissue lesion of late or latent syphilis is an irritative or inflammatory process, usually mild in degree, characterized by lymphocytic and plasma cell infiltrations in the stroma, particularly about the blood vessels and lymphatics, slight tissue proliferation, eventually fibrosis and atrophy or degeneration of the parenchyma. These mild inflammatory reactions are due to the localization in the tissues of relatively avirulent spirochetes, while syphilitic lesions of this type occur in all tissues and organs, but are most easily recognized in the nervous system, heart, aorta, pancreas, adrenals and testes.

"Syphilis, after the establishment of the secondaries, tends to become a mild process; but at any time this partnership between body and spirochete may become disturbed and tissue susceptibility or virulence of the spirochete become increased, so that the disease again appears above the clinical horizon. Immunity in syphilis depends upon the carrying in the body of the spirochetes. A price is paid for this immunity in the form of the defensive inflammatory lesions as above described. The disastrous effects of syphilitic infection usually require a period of years for their development. The slowly progressive lesions, fibrosis and atrophy, may at last manifest themselves in paresis, tabes, myocarditis, aortitis, aneurysms, diabetes, hepatitis, or in many other forms of tissue damage, and functional disturbance.

Lesions of the viscera are much more common and important clinically than those of the central nervous system, but they are rarely recognized as syphilitic by the clinician.

"The syphilitic is pathologically damaged goods," and the damage is a progressive one. He wears out sooner, his viscera more quickly reach their histogenetic limits, he actually becomes prematurely old, and there is a constant strain upon his defensive powers. No man can contract syphilis and become clinically cured, which as far as we know, means latency of the infection (that is spirochete carrying) and have the same potential body-value and expectancy of life as before the infection. As to curability, Worthin has said he has never seen a case pathologically cured. In all cases examined at autopsy, active areas of specific inflammation are always seen, and such areas mean always the persistence of the spirochete. This pathologic conception of the syphilitic as probably always a spirochete carrier once the infection is acquired, should influence the therapeutic management of this chronic infection. The syphilitic, even when apparently perfectly healthy should have his life laid out for him along lines tending to prevent the reawakening of the virulence of the organism, or an increased susceptibility of the body tissues and organs. This is done for the patient who has once had clinical tuberculosis; when properly treated the future life is planned to prevent the reawakening of his infection, because he too is usually, if not always, still a carrier of the tubercle bacilli. But in the case of the syphilitic such hygienic measures are not applied, implicit reliance is usually placed upon a certain amount of salvarsan or mercurial treatment, while the infected individual is permitted to take up his life again as if he were an ordinary individual, and, as a rule, he succumbs prematurely to the stress and strains incident even to ordinary living."

Ralph Waldo Emerson says: "In every mark of genius we recognize our own rejected thoughts; they come back to us with a certain alienated majesty. Great works of art have no more affecting lesson for us than this. They teach us to abide by our spontaneous impression with good humor and inflexibility, then most when the whole city of voices is on the other side. Else tomorrow, a stranger will say with masterly good sense precisely what we have thought and felt all the time, and we shall be forced to take with shame our own opinion from another."

In the light of Worthin's "New Pathology of Syphilis" the diagnosis, prognosis and treatment of syphilis of the nervous system certainly assumes a new clinical status, and especially significant and of the greatest importance to the infected individual is the therapeutic management.

Syphilis of the nervous system is most protean in its manifestations and therefore presents our most difficult and troublesome diagnostic problems. In the diagnosis of neuro-syphilis, we can consider the following points for investigation:

Syphilis of the Nervous System is a chronic infection by the treponema pallidum, of the brain and cord substance, their protecting membranes

and blood vessels, all of which may be affected separately or conjointly, the clinical manifestations being determined by the location of the lesion, whether meningo-encephalitic, meningo-myelitic, or both, the virulence of the spirochete, the natural defensive powers of the body, the latency or activity of the infection, the amount of structural change in the tissue due to defensive and reactive inflammatory proliferation of cells and connective tissue which produces more functional impairment of the sensory and motor areas and paths of the brain and cord than the spirochete itself.

It is all important that a comprehensive knowledge of the anatomy and physiology of the brain and spinal cord must be maintained in order to intelligently interpret the presenting pathological physiology.

The most detailed family and personal history must be obtained because close questioning will many times bring out important experiences in the life of the individual which will throw much light on the problem in question.

A thorough physical examination must always be made, keeping in mind the signs and symptoms of visceral syphilis, which so often over-shadow and mask the more grave psycho-neuro-pathology.

The most detailed neurological examination must be made in every case of suspected neuro-syphilis; this would include a complete study of the function of the cranial nerves and special senses, the sensory, motor, trophic, and vasomotor systems; reflexes, both superficial, deep, and organic; station, gait, and co-ordination tests and tremors. Pupils, whether equal, regular in outline, centrally located, and response to light, accommodation, sympathetic and consensual reflexes; optic axes parallel and visual fields intact. No neurological examination is complete without an ophthalmologic study of the eye grounds. Here are found the very earliest signs of neuro-syphilis. There are many other signs and tests which must be made and with the other neurological data properly interpreted and correlated to explain the pathological physiology in question.

A mental status is imperative in the study of neuro-syphilis, and should include general manner and emotional attitude, coherent or relevant conversation (aphasic types) stream of mental activity, delusional trend, false sense perceptions, memory for recent and remote events, correlation of events with time, orientation for time, place, and personality; disorders of attention and retention; grasp of personal data and current events; changes in emotional reaction and personality; power of self criticism; tests for practical application of the fund of acquired knowledge; and insight into present condition.

The study of a cross-section of human conduct will not give reliable information in regard to the pathology of any brain. It must be a perspective from childhood to the present date.

A consideration of the laboratory findings of the serum and spinal fluid will complete the tripod upon which rests the diagnosis of neuro-syphilis.

The intelligent and rational treatment and positive diagnosis in many atypical cases, would be impossible without the co-operation and assistance of the serologist. It is my opinion that we expect too much of our serologists, they furnish one link of the diagnostic chain of three links, we hold the other two, and wait for the serologist's report to make a short cut to a diagnosis. To me this seems unfair to the patient as well as the serologist, for they are both often discredited because of our snap-shot diagnoses.

A positive Wassermann on the blood does suggest syphilis; a positive Wassermann on the spinal fluid with increased cell count and excess globulin content does to me spell neuro-syphilis, but a negative Wassermann on blood and spinal fluid does not exclude neurosyphilis. The serologist's findings must always be correlated with the clinical findings and therefor the most cordial and harmonious understanding must exist between the serologist and the physician. I am unalterably opposed to the method of sending blood and spinal fluid through the mail for examination because the results are uniformly unreliable and are the source of much pernicious syphilitic therapy. The conception of neuro-syphilis in the light of Worthin's new pathology as "once a syphilitic, always a syphilitic, either latent or active," would change the present methods of intensive and excessive therapeusis, whether it be mercury or arsphenamin, intravenously, intraspinally or intraventricularly, or by any other method in vogue, to a plan of more conservative, less frequently administered method of treatment, in which the therapeutic goal would be to render an active neuro-syphilitic to a latent condition, and proceed by future treatment to keep the patient's defensive powers at or above par and to administer sufficient mercury

and arsphenamin to keep the spirochete impotent or in an avirulent state.

It seems to me that the greatest amount of neuro-pathology present in these cases is not due to the presence of the spirochete but depends on the proliferation of tissue cells resulting from the defensive inflammatory process in an effort for biological adaptation. This conception, then, leads to the problem of reducing the strain and stress upon the nervous system, which is even in excess in ordinary existence. In these days of intensive therapy, an individual with a positive Wassermann certainly has a difficult road to travel, because it is one continuous puncture of some kind, and if negligent, the wheel chair or insane asylum is pointed out as the future abode, and consequently these people are frightened into subjecting themselves to anything that may be proposed, for as long as the Wassermann is positive, no matter if the patient succumbs to the toxic effect of the mercury and arsphenamin upon visceral syphilitic organs that at their best, can only half perform their function, the treatment must proceed.

The treatment of neuro-syphilis is indeed an individual problem and every case is a law unto itself and must be studied as such. The sooner the spinal puncture in the spirochetic septicemia stage of syphilis is made, the more cases of neuro-syphilis will be found and treatment instituted at a period when therapy will produce the most satisfactory results. Neuro-syphilitics must have their lives planned so as to maintain the greatest possible defensive body power. They must, when under treatment, be subjected to hospital routine or at least be taken away from ordinary duties. During this series of treatments, every assistance that would build up the general health, such as nutritive diet, pleasant and congenial surroundings, tonic baths and massage, are of the greatest advantage if accessible. Especially the vapor baths seem to permit the patient to absorb more mercury and tolerate more arsphenamin than when otherwise treated. The intravenous administration of arsphenamin in neuro-syphilis is of major importance, and should only be given by skilled operators with hospital facilities. The patient should have twelve hours rest in bed, no diet for six hours and a clean intestinal tract. Also he must remain in bed for twenty-four hours after treatment.

Not more than four treatments should be given in a series. One series of treatments should last about three weeks, and not more than two should be given in the same year unless the infection be active, then more if patient be in good physical condition.

One spinal puncture during each series at the end of second week; this is for laboratory test and spinal drainage.

In conclusion I wish to say that there are many important points about neuro-syphilis that I have not touched upon, but I hope that what I have said will lead to the most interesting part of any paper, that is the sincere discussion and expression of opinions and observations upon this very important clinical problem.

FLUCTUATIONS OF REFRACTION IN DEVELOPING CATARACT.*

BY C. ZIMMERMANN, M. D., F. A. C. S.,

MILWAUKEE.

This paper discusses the physiological and pathological changes of the crystalline lens in their influence upon refraction, illustrated by a case of developing cataract, observed for many years.

The important part which the crystalline lens normally plays in the refraction of the eye makes it easily conceivable, that certain changes of the lens must lead to alterations of refraction. These changes are physiological and pathological. The physiological changes are a natural accompaniment of the growth (with the advancing years in the course of life) of the individual and are of great interest for the understanding of the pathology of the lens. Most important are the alterations of the dimensions and shape, consistency, and coloration of the lens. During the whole life new lens fibers are formed from cells at the meridional rows of the equator of the lens so that its volume and weight increase, from the 25th to the 65th year by 1/3, its diameter by 1/10, (Priestley Smith). The increase of the volume by this new formation of fibers preponderates over the apparent simultaneous loss of the water content of the lens which produces changes of the nucleus. In consequence of the larger volume of the lens the anterior chamber of older people generally is markedly more shallow. The growth of the lens

*Read before the Eye, Ear, Nose and Throat Section, Wisconsin State Medical Society, October 3rd, 1918.

influences its shape, from the almost spherical form of the lens, if left to itself, of the newborn to the less curved anterior surface of the senile lens, whose sagittal diameter is smaller than its equatorial diameter. Perhaps the acquired hypermetropia at higher age is due to this flattening of the anterior surface of the lens.

Physiological alterations of consistency are due to sclerosis of the lens, a process which may be compared with the cornification of the epithelium. It is characterized at first by a gradually greater hardness of the more centrally located lens fibers from loss of water. A cross section of the senile lens frequently shows the nucleus dry without lustre, the cortex moist and glistening. Hess found in some cases the whole nuclear portion converted into a homogeneous mass, in which no single fibers were visible, (Pathologic des Linsensystems, p. 32). The sclerosis increases the refractive index. Halben showed that loss of water alone increases the refractive index of the lens. Whether the higher index in sclerosis is due only to loss of water or also to chemical alterations of the nucleus, e. g., the greater amount of the more refracting cholestearin, (Jacobson, Matthiesen), is still uncertain. The nucleus seems to grow with advancing age by supplanting the soft cortex. If this is excessive, it may develop into brunescent cataract, whose brown color differs, (according to Hess, p. 53), from the normal senile lens only in degree, not in kind.

Probably in consequence of abnormal loss of water another pathological condition with apparently normal shape of the lens is created, viz., an abnormally great difference between the central and peripheral parts of the lens which may amount to a difference in refraction of from 10 to 16 diopters. Sometimes the turning of the ophthalmoscopic mirror in such cases shows a migration of the illuminated field in the central parts opposite to that in the peripheral parts. The center of the pupil may appear less bright than the periphery, and the border between both may be indicated by a dark shadow in form of a crescent or a ring. The ophthalmoscopic examination through the central area of the pupil may reveal more or less high myopia and through the peripheral area a lower degree of myopia, emmetropia, or hypermetropia. From the similarity of these phenomena with those of true lenticonus, Demicheri termed them spurious lenticonus. They occur in perfectly clear lenses or in lenses that may remain clear for a long time, but also as precursors of, or in combination with, cataract. Vision may be considerably reduced, so that extraction is indicated, but in some cases it may be improved by correction of the nuclear myopia. Hess showed that from the 25th year with advancing age the difference between the index of the nucleus and that of the adjoining cortex constantly increases. The refraction of rays at the surface of the nucleus, at equal difference of index, must be the greater the greater the curvature of this surface is. As the difference of index at higher age, in which this phenomenon exclusively occurs, is considerable, relatively slight differences in the curvature of the nucleus could essentially influence the refraction. Although these differences of shape of the surface of the nucleus have so far not been exactly investigated, Hess considers their possibility a priori as not too remote to serve in the explanation of the phenomenon.

Another disease of the lens without opacity consists in the formation of radical clefts immediately under the capsule, which may remain transparent for a long time. They may be invisible in certain positions of the ophthalmoscope, but on slightly tilting the mirror they may shine with a lustre and again appear as darker streaks. Vision may be more or less impaired, and the patient may complain of polyopia and metamorphopsia due to development of lenticular astigmatism. Gradually the contents of these clefts may become opaque and produce cataract. The affection resembles the first stage of napthalin poisoning of the rabbit, in which Hess showed that the cataract is preceded by the formation of spokes clear as glass. In this stage, volume and weight of the lens are regularly increased. Becker considered fine, the light totally reflecting, clefts in the deeper strata of the cortex as the first, during life perceptible, symptom of incipient senile cataract. Hess, however, proved that these clefts do not lie in the deeper strata of the cortex, but closely under the capsule. He considers this proof important for the understanding of the development of cataract. As is well known, the most frequent form of senile cataract is the subcapsular cortical cataract.

With regard to pathological alterations of the epithelium Hess examined a large series of eyes affected with various kinds of cataract. The only changes he could find with certainty in the great majority of these eyes with senile opacities, consisted in more or less numerous irregularly

bordered, vesicular vacuoles, of which he could not say whether they lay between epithelium and capsule, or closely under the epithelium, between this and the cortical fibres. He never found them in eyes with perfectly transparent lenses, but especially in comparatively early stages of subcapsular cataract, sometimes scarce, sometimes in such quantities, that they gave the appearance of fine vesicular foam immediately under the capsule. He thinks that they cannot be due to anything else but accumulation of small quantities of clear fluid under the capsule, respectively the epithelium. Likewise with regard to the occurrence of clear clefts previous to the development of supranuclear cataract, Hess describes a visibly not opaque lens, in which he found a bright reflecting line parallel to the equator between cortex and nucleus, composed of numerous minute clear formations, and also a large number of finest fissures between the apparently normal fibres of the most peripheral layers of the nucleus. It gave the impression as if clear fluid had accumulated in very small quantities in these formations. Hess believes, that at the beginning of cataract an intussusception of fluid takes place with the microscopically demonstrated destruction of the epithelial cells to which he attributes the pathogenesis of subcapsular cataract, and the young cortical fibres, which not only anatomically but also in their biological properties are the more related to the capsular epithelia the younger they are. To this corresponds the increase of volume of the lens in incipient cataract, evidenced by the greater shallowness of the anterior chamber, as also found experimentally in the first stages of napthalin cataract. Several cases were attributed to this stage of intumescence of the lens in which in predisposed eyes glaucoma was brought on by the swelling of the lens. The myopia preceding or accompanying the formation of cataract has been ascribed to these changes. By intussusception of water into the cortex its index will be lowered and thereby the total index increased, and also the curvature of the lens may be increased.

In the progress of cataract to maturity the lens gives out fluid to the surroundings. Its volume and weight decrease and with this the depth of the anterior chamber becomes again normal, with decrease of refraction. As illustration to the refractive changes due to pathologic alterations of the lens, I should like to report one of a number of cases which I had under observation for many years: An otherwise healthy strong gentleman showed, when first examined at the age of 52, Emmetropia, and Presbyopia. In his 64th year his sight became impaired. He had developed myopia and incipient cataract at the peripheral cortex of both eyes. Vision was corrected by R—3.50 L—1.00, for reading R—1.50 L+0.75. At 65, V R 20/200, V L 20/100. His myopia had increased and was complicated by astigmatism. The opthalmometer showed R—1.00 180° L—0.75 180°. V was corrected with R—5.00=—cyl. 0.50 90° to 2/30, L—1.00=—cyl. 2.00 90° to 20/20; for reading R—3.50=—cyl. 0.50 90°, L—cyl. 1.00 90°. In certain positions of the opthalmoscope the fundus of each eye was clearly visible, in others not, on account of sclerosis of the nucleus of the lens. The peripheral opaque spokes had not much changed. The anterior chamber was shallow. There was monocular polyopia.

In each of the following years the spheres and cylinders had to be increased, vision gradually decreasing even under correction. At the age of 70 he received the maximum, viz., R—10.00=—cyl. 2.00 90° V 20/100, L—6.00=—cyl. 4.50 90° V 20/50. At 72 V with these glasses was the same. V without glasses was fingers at 6 feet. The opthalmoscopic examination revealed R. clear red reflex, dimmed in the center by the sclerotic nucleus, details visible, no changes of the retina. Cataract not progressed. Left eye: the same picture of sclerosis with slight opacities at the equator. Sugar was found in the urine for the first time, but there were no other diabetic symptoms. It certainly had nothing to do with the affection of the lens. At 75, details of fundus could be seen in left eye, not in the right. The sclerosis of the nucleus had increased. The swelling of the lens had decreased as indicated by the less shallow anterior chamber and also refraction, which was now: R—9.00=—cyl. 1.00 90° V 20/100, L—6.00=—cyl. 3.75 90° V 20/50, i. e., vision had remained the same, and had not changed in the next four years, but myopia and astigmatism at 79 had further decreased to R—7.00 V 20/100 L—5.00=—cyl. 2.00 90° 20/50. At 81 V with these glasses was R 20/200, a little less, V L 20/70. The Opthalmoscope showed R. faint red reflex, some opaque cortex on temporal side, clear on nasal side, nucleus opaque. *Left*: Cortex pretty clear except a few spokes, nucleus diffusely opaque, but details of fundus faintly visible. With R—2.50 he reads large print, with L—cyl. 2.00

90° No. 1 Jaeger at 6 inches, No. 2, at 9 inches, and No. 4, at 11 inches. The patient was a very assiduous reader, and read with these glasses for many hours every day without discomfort.

DISCUSSION.

Dr. Dwight: This paper is of unusual interest. I heard some of it. I think all of us will have to handle these cases of approaching cataracts, which do not have the complete cataract and which are not operative. They are hard to avoid. In many of the cases I have been reading of, the cataracts are operated because we are anxious to operate before the case gets into different hands. People with cataracts make dissatisfied patients. They wonder why something cannot be done, and for that reason are operated sooner than they should be. Dr. Zimmermann has presented a very interesting paper, for the reason that it comes close to the practice of many of us.

Dr. A. J. Taugher: This paper I have enjoyed very much. There are a few things in connection with cataract, apt to be overlooked in our hurry, which call for closer scrutiny. Patients often enter the oculist's office for relief, equipped with a pair of dirty black glasses. This equipment was obtained at some ten cent store, if not at a hardware store.

The oculist makes a diagnosis of cataract, believes that to be final, and decides to operate. This I consider a mistake, and we should take steps to prevent its recurrence. Patients should not be allowed to wear those wretched dark glasses. We should endeavor to get glasses that are least harmful to them. We should not be content with saying that they have a cataract. The blood pressure should be taken and the urine examined frequently. The patient should possibly be sent to a sanitarium or take salt baths at home. In the case reported here, the prescribed treatment resulted in a great deal of comfort for the patient, and provided a reading life for him, a blessing they all crave for. It should be our endeavor, therefore, in diagnosing cases of cataract and prescribing glasses, to see the patient frequently, give them the proper color, to shut out injurious rays, and, in fine, let us bear in mind that many of our cataract cases come from the country where glasses are obtained from the jeweler, or the traveling optician. They want glasses *that enlarge*, and get them. The already increasing action of the lens, plus too much refraction, puts a great strain on the eye, which in all probability effects a great and serious injury to the lens and eye in general. I want to urge general care for the incipient cases of cataract in the future.

If a woman is not able to conceive, take pulverized deer horn, mix it with the gall of kine; the woman rubs this upon herself, copulates and becomes at once pregnant.—*Alb. Mag., De Miribilibus.*

HYDRONEPHROSIS: ITS DIAGNOSIS AND TREATMENT.*

(*Lantern Slide Demonstration.*)

BY JAMES C. SARGENT, M. D.,

MILWAUKEE.

There are three perfectly sufficient reasons justifying a discussion limited to the diagnosis and treatment of hydronephrosis. The first and possibly the greatest is the mere number of cases of hydronephrosis seen by the urologist presenting a history of from one to a half dozen unfruitful surgical attacks upon the appendix, tubes or ovaries. The second; that the diagnosis of early hydronephrosis is impossible without the employment of the most detailed means of urological investigation. And the third; that the diagnosis of early hydronephrosis is greatly to be desired in order that the subject may be spared a good functioning kidney.

Simple hydronephrosis occurs most frequently in early adult life; more commonly in women than in men; and usually on the right side. The causes of hydronephrosis are legion. Suffice it to say that the so-called simple, intermittent hydronephrosis is always the result of a prolonged but incomplete obstruction to the outflow of urine from the pelvis of the kidney.

The most constant symptom of hydronephrosis is that of a dull intermittent ache in the region of the affected kidney behind. Less frequently, but in a fair number of cases, this dull ache is felt more in the abdomen than in the back. Occasional patients with an advanced hydronephrosis give a history of having noticed a decreased output of urine during the attacks of renal pain and a polyuria following ceasation of the pain. Let it be remembered, however, that this symdrom—the so-called Deitle's crisis—is so rare that it approaches classification among the medical curiosities. With this one rare exception it may be definitely said that urinary symptoms are never associated with simple hydronephrosis unless the result of some co-existing urological condition.

Physical signs offer but little more aid in the

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*Read before the Surgical Section, State Medical Society of Wisconsin, Milwaukee, Oct. 3, 1918.

diagnosis of hydronephrosis than do symptoms. Palpation of an enlarged kidney in early hydronephrosis is an unreliable sign because it can seldom be accomplished in well developed subjects, whereas, in those individuals who are very thin and who have lax abdominal walls, it is very difficult to distinguish between a rather loose normal kidney and an early hydronephrotic kidney.

In this brief resumé of the symptomatology of hydronephrosis the one outstanding feature is the paucity of symptoms other than that of unilateral renal pain. This in itself seems to justify the expression that the urologist should be consulted before the general surgeon in that case presenting no other symptom than a recurring unilateral abdominal or lumbar pain, particularly if occurring in a young woman.

The diagnosis of early hydronephrosis is accomplished by catheterization of both ureters with a study of the divided urines; by the divided renal function tests; and by pyelography.

The urinary findings in hydronephrosis are of value only in the exclusion of other urological conditions with which it might be confused. The bladder urine obtained by catheter is miscroscopically negative. The urine obtained by catheter from the affected kidney is frequently pale in color but is in no other way different from that obtained from the normal kidney. Several authors have called attention to the difference in rate of flow of urine from the two ureteral catheters. True it is that in some cases of hydronephrosis the rate of flow is much greater from the affected side for a time until the over-distended pelvis has been drained. This evidence, however, is made rather unreliable by the number of factors that influence the rate of flow from an ureteral catheter. Much more reliable, it seems to me, is the aspiration of either kidney pelvis thru the ureter catheter by suction with a syringe. It is not uncommon by this method to be able to draw but 4 or 6 cubic centimeters of urine from the normal kidney in comparison to 20 or 25 cubic centimeters from the suspected kidney. Such a finding is in itself presumptive evidence that hydronephrosis is present.

Further evidence in favor of hydronephrosis can frequently be obtained by the simple procedure of injecting sufficient sterile water into the suspected kidney pelvis to produce slight pain. Even though this procedure has been accused of some possibilities of damage to the patient, when carefully done, it results in no damage and is frequently of great value in assuring the operator that the pain of which the patient complains is really a kidney pain. It is not uncommon to hear the patient exclaim that the pain inflicted by slight distention of the suspected kidney pelvis is identical with that with which he has been suffering.

The divided renal function test offers not only a valuable aid in the diagnosis of hydronephrosis but is the one and only reliable basis upon which intelligent treatment can be planned. Rountree and Geraghty[1] in their epoch-making work developed the phenolsulphonephthalein renal function test which still stands unchallenged in its simplicity, safety and almost uncanny accuracy. A very perfect knowledge of the functional capacity of either kidney may be obtained by the simple procedure of injecting one cubic centimeter of phthalein into an arm vein and collecting the urine from either ureter catheter for one-half hour after the first appearance of phthalein. The normal kidney excretes from 25 to 35 per cent of this amount of phthalein in that time.

In early hydronephrosis it is usual to find the effected kidney excreting slightly less than normal—say 20 per cent—and the normal kidney excreting the normal amount or slightly more—say 35 per cent. In advanced hydronephrosis with more or less complete destruction of kidney substance, the phthalein output of the affected kidney is frequently nothing more than a trace, whereas, the unaffected kidney is found excreting more than normal, frequently as much as 40 per cent.

From the data obtained by the divided function test one may accurately judge the extent to which the hydronephrotic kidney has been destroyed as well as the functional ability of the other kidney. A hydronephrotic kidney, the function of which has been but slightly impaired, should of course be saved if possible. The procedure is dictated by the cause of the obstruction producing the hydronephrosis. Obstruction caused by external pressure on the ureter is relieved by removal of the structure causing that pressure; obstruction caused by anatomical defect in the junction of the ureter and kidney pelvis is removed by plastic operation on the uretero-pelvic juncture; obstruction caused by stricture of the ureter is removed by dilatation of the stricture, etc. A hydronephrotic kidney with practically no function should be removed, providing— and this is very important—the other kid-

ney is known to possess a function compatable with life.

The last, and by no means the least, method employed in the diagnosis of hydronephrosis is that of X-ray photography of the kidney area with the kidney pelvis filled with a solution impermeable to the Roentgen ray. In the early days of pyelography collargol solution was used in the kidney pelvis for this purpose but this has been replaced almost universally by the less dangerous and generally more satisfactory thorium nitrate solution developed and presented by Burns[2]. The solution is allowed to run into either ureter catheter until the first feeling of discomfort to the patient, whereupon the X-ray exposure is made over either kidney area.

LANTERN DEMONSTRATION.

Fig. No. 1. A schematic drawing representing the characteristic pyelographic features of the normal and the hydronephrotic kidney.

The upper right hand figure represents the normal outline of the renal pelvis. Note, first, the small size and funnel shape of the true renal pelvis. Note, second, the breadth of the (usually) three major calices. Note, third, the well defined finger-like projections of the many minor calices.

Fig. No. 1.

The upper right hand figure represents the pyelographic outline of a moderately hydronephronic kidney. Note the enlarged and distorted pelvis, the broadening of the major calices, and the obliteration of the minor calices. Such a kidney would be found to retain about half the renal function and if so, would be best treated by the removal of the etiologic obstruction rather than removal of the kidney.

The lower left hand figure represents the pyelographic outline of a rather large hydronephrosis of the extra-renal type. Note the extremely large pelvis with high insertion of the ureter forming a false valve at the uretero-pelvic junction, also the broadened major calices, and the blunted minor calices. Because the distention has occurred more without the kidney than within, this kidney might retain some function and if so, might be spared by plastic operation at the uretero-pelvic junction allowing free pelvic drainage.

The lower right hand figure represents the pyelographic outline of a completely destroyed hydronephrotic kidney. Note the increased pelvic capacity, the very broad major calices, and the entirely obliterated minor calices. Such a kidney would have no function and would be best removed.

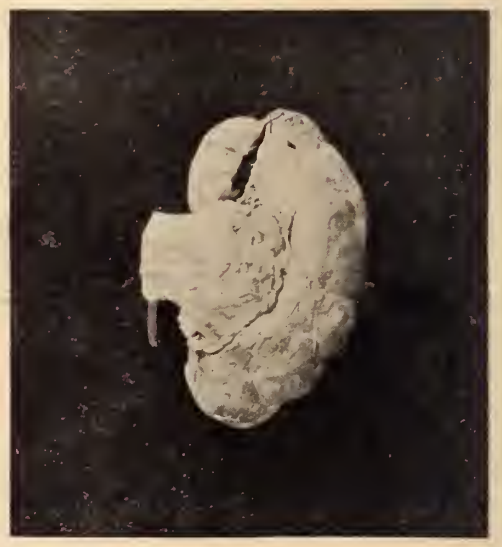

Fig. No. 2.

Fig. No. 2. A photograph of a hydronephrotic kidney, the function of which was entirely destroyed. Note the large renal pelvis. A match stick has been placed in the ureter.

Fig. No. 3. A photograph of another hydronephrotic kidney, the function of which was entirely

Fig. No. 3.

destroyed. A tooth pick is inserted in the ureter. The dotted line represents the contour of the renal pelvis before it was incised.

Fig. No. 4.

Fig. No. 4. A photograph of the same kidney cut from pole to pole and layed open. Note the extremely large pelvis, the markedly dilated calices, and the thin wall of parenchyma remaining.

Fig. No. 5. A pyelogram of a normal kidney. Note the normal location of the kidney; the small renal pelvis; the (two) normal major calices and

Fig. No. 5.

the many finger-like projections of the minor calices.

Fig. No. 6.

Fig. No. 6. A uretero-pyelogram of a case of chronic pyelitis and ureteritis. Note the normal size of the renal pelvis and the major calices. Note also the distinct dilation of the ureter. Such dilation frequently follows long-standing infection.

Fig. No. 7.

Fig. No. 7. Another uretero-pyelogram of chronic pyelitis and ureteritis, displaying the same ureteral dilatation but in addition, dilatation of the renal pelvis. That this is due to infection and not obstruction is shown by the normal appearance of the major and minor calices. It so happens that this kidney is ptotic.

Fig. No. 8.

Fig. No. 8. A pyelogram of a case of hydronephrosis. Note the ptotic and enlarged kidney shadow (as exemplified by the dotted line); the enlarged renal pelvis with high insertion of the ureter; the broadened major calices; and the obliteration of the minor calices. The function of this kidney was but slightly impaired. The diagnosis in this case was facilitated by distention of the renal pelvis with sterile water reproducing her pain.

Fig. No. 9.

Fig. No. 9. This picture has been included to show the characteristics of a uretero-pyelogram in a case of renal tuberculosis. Note the thin, irregular, "moth-eaten" contour of the ureter. Note also the half dozen tubercular sacks in the kidney filled with Thorium.

Let the party that bleedeth, chew the root of a nettle in his mouth but swallow it not down, and without doubt the blood wilt staunch; for if one keepeth it in his mouth, he can lose no blood. (Petrus Hispanus.)

No. 142, S.] [Published June 13, 1919.

CHAPTER 331, LAWS OF 1919.

AN ACT to amend subsections 1, 3, 4 and 6 of section 1417m and to create subsections 12 and 13 of section 1417m of the statutes, relating to social diseases.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. Subsections 1, 3, 4 and 6 of section 1417m of the statutes are amended to read: (Section 1417m) 1. Any person afflicted with gonorrhea, CHANCROID or syphilis in its infective or communicable stage is hereby declared to be a menace to the public health. Any physician licensed to practice medicine in this state who is called upon to attend or treat any person infected with gonorrhea, CHANCROID or syphilis in its communicable stage, shall report to the state board of health in writing, at such time and in such manner as said board may direct, the age, sex and conjugal condition of such person and the name of the disease with which such person is afflicted. Such report shall be made on blanks furnished by the said board.

3. Any deputy state health officer having knowledge of any known or reasonably suspected case of gonorrhea, CHANCROID or syphilis in the infectious or communicable stage for which no treatment is being administered under the supervision of a licensed physician authorized to prescribe drugs shall forthwith report such case to the state board of health in such manner and in such form as in the judgment of said board will best tend to preserve the public health and prevent public knowledge of the identity of such case. Said board shall immediately investigate or cause such case to be investigated and for such purpose may make or cause to be made such inspections, examinations, quarantines and disinfections as may be necessary. In making an examination of a female for the purpose of determining the existence of venereal disease a female physician may be secured by said board for such purpose when so requested by the person to be examined.

4. Whenever any person afflicted with gonorrhea, CHANCROID or syphilis ceases taking treatment before he or she has reached the stage of the disease where it is no longer communicable or whenever any person has been informed by a licensed physician that such person is afflicted with gonorrhea, CHANCROID or syphilis in the communicable stages and the person so afflicted refuses to take treatment, the physician shall forthwith notify the state board of health, giving the age, sex and conjugal condition of the person afflicted and the nature of the disease. The state board of health shall without delay, take such steps as shall be necessary to have said person committed to a county or state institution for treatment until such person has reached the stage of the disease where it is no longer communicable and the person so committed shall not be released from treatment until this stage of the disease is reached unless other provisions satisfactory to the state board of health are made for suitable treatment.

6. Each county shall make such provisions as may be required by the state board of health to furnish the necessary care and treatment to all indigent persons residing in the county who are afflicted with gonorrhea, CHANCROID or syphilis, or to any such person who may be committed to any county institution for failure to comply with this law, until such afflicted persons have passed the infectious or communicable stage of the disease.

Section 2. Two new subsections are added to section 1417m of the statutes to read: (Section 1417m) 12. No druggist or other person not a physician licensed under the laws of this state shall give, sell, prescribe or recommend to any person any drugs, medicine or other substances to be used for the cure or alleviation of syphilis, gonorrheal infection or chancroid, or shall compound any drugs or medicine for said purposes from any written or printed formula or order, not intended for the person for whom the drugs or medicine are compounded, except on written prescription bearing date and signed by a physician, licensed under the laws of the state, Any violation of this section of subsection 13 of section 1417m shall be punished under the provisions of subsection 11 of section 1417m.

13. It shall be unlawful for any person having the supervision or control of any public place to display or permit to be displayed any sign, poster, advertisement, or prescription to be used in connection with the prevention or treatment of any venereal disease.

Section 3. This act shall take effect upon passage and publication.

Approved June 11, 1919.

COPY LAW.

No. 258, A.] [Published May 31, 1919.

CHAPTER 237, LAWS OF 1919.

AN ACT to create section 1022—63 of the statutes, relating to vital statistics.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. There is added to the statutes a new section to read: Section 1022-63. The local registrar of each township, incorporated village and city shall, on the first day of each and every month, make an exact copy of all births, marriages and deaths recorded in such city, incorporated village or township during the previous month, whenever the parents of the child born, or the bride or the groom, or the deceased person, were resident in any other city or incorporated village in this state or in any other state at the time of said birth, marriage or death; and shall transmit such copies to the registrar of the incorporated village, city or state in which such parents of the child born, the bride or the groom, or the deceased, were resident at the time of said birth, marriage or death. The registrars so receiving such copies shall record the same in the books kept for recording births, marriages and deaths. Such copies shall be made upon blanks to be furnished for that purpose by the state board of health.

Section 2. This act shall take effect upon passage and publication.

Approved May 27, 1919.

COPY LAW.

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 504 Goldsmith Building, Milwaukee

Vol. XVIII. July, 1919 No. 2

EDITORIALS

VICTORY MEETING.

TIME—OCTOBER 1, 2 AND 3.
PLACE—MILWAUKEE—THE AUDITORIUM.
REUNION—ALL WAR WORKERS.
PROGRAM—THE VERY BEST.
EXHIBITS—NEVER EXCELLED.
ENTERTAINMENT—UNEQUALED.
MAKE YOUR PLANS NOW!

THE STATE MEDICAL SOCIETY OF WISCONSIN.

THE purpose of our society is set forth in Article II of the constitution in the following well chosen words:

"The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the state of Wisconsin, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life."

Our Society, organized nearly three-quarters of a century ago, has, by the devoted efforts of its officers and members, continuously carried on the efforts toward ideals expressed above.

PUBLIC SERVICE—THE PHYSICIAN'S DUTY.

THE professional man generally, and the physician in particular, has come to be looked upon as a public character, owing a direct and peculiar service and duty to the public. He is one of a class of citizens who by education and experience has acquired a bigger, broader point of view than can be attained by the average citizen. His education and training give him an understanding of the interests of groups of people. The average man is accustomed to look to the physician for advice and direction in the extraordinary things of life, the things that are beyond the capabilities and experience of the average individual.

The community today looks to the physician for public service as a part of his job. His standing and influence in the community force the community to look to him for this service. The medical profession has been brought forth from the laboratory and the office and placed in the limelight of public service. We have doctor-mayors,

doctor-aldermen, doctor-governors, doctor-congressmen and doctor-senators. The public life which half a century ago was confined almost exclusively to the legal profession now demands the services of all men with the broad point of view which is conferred by a professional education.

In assuming the responsibilities of public service, the physician is not only performing his duty to the community. He is contributing directly to his own personal and professional success. The physician who becomes favorably known to his community through his public service, will soon become favorably known for his professional service. By no other means conforming with the ethics of his profession can the physician acquire so wide and so thorough acquaintance with the men and women upon whom his professional success depends as he can by public service.

The physicians of the country have demonstrated their willingness to accept the responsibility of public service during the war period. The self-sacrificing services of the profession as a whole in connection with the formation of the great National Army through the draft, not to speak of the actual field service of the thousands of physicians who served abroad or in the training camps here, demonstrated the public spirit of the profession.

Greater opportunities are now before the physician in his character of a public man than ever before. The American people are seeking to perpetuate the habit of thrift acquired under the stress and strain of the war period. The success of this movement means a strong, self-reliant American people, independent and able to care for themselves. The American people have been awakened to a value of public health work. They have been taught that the prevention of disease is possible, that the term "reconstruction" is applicable to civil as well as military life and that all things are accomplished by team work under scientific leadership. It is time for the medical man to assert himself in public life and to assume a leadership which is now expected of him.

HYDRONEPHROSIS.

ATTENTION is called to the excellent paper on "Hydronephrosis" by Dr. James C. Sargent, published in this issue of the Journal. The absence of discussion on this paper is regretted and is due to the fact that a new reporter was engaged to report this section work and through a misunderstanding no notes were taken.

AIMLESS COUNTY SOCIETIES.

THE charge is quite general that county society activity is now at a low ebb. The numbers enrolled do not indicate any great change, but interest in many quarters has unquestionably diminished. This is due in part to war depletion and overworked medical profession, as well as to the diminution of county society responsibility by the war work having been conducted by new, extra associational bodies — district advisory boards, Council on National Defense, Medical Section, etc., in place of using existing medical organizations. All this is now rapidly passing, but why the continued lack of interest? The answer is plain—all societies arise in a kind of associational enthusiasm for the accomplishment of some important purpose. Our organizational stage has passed; nothing very pressing appears, the society is idle, and interest lags. Idleness is usually the result of aimlessness. Is a county society aimless? If so, let it look about at the health needs of the county and find its work. Societies, like men, must have a work, must be striving for some important end. Is your society working hard for a city or county hospital? Is it working for health inspection of schools? Has it an active committee for enforcement of health laws, for the reporting of vital statistics, for backing up the venereal law, etc., etc.? Such will bring your society to life. There is no place for aimless loafers among medical organizations.—*Texas Medical Journal.*

DIVISION OF VENEREAL DISEASES.

WHEN the Chamberlain-Kahn Act created the Division of Venereal Diseases in the United States Public Health Service and the great work of venereal disease control was inaugurated, the plan of procedure formulated was grouped under three headings, as follows:

1. *Medical* measures.
2. *Law-enforcement* measures.
3. *Educational* measures.

The *Educational* measures include the dissemination of information by leaflets, lectures, exhibits, moving pictures, stereopticon views, and other means, among industrial plants, commercial institutions, clubs, libraries, community centers, schools, churches, the home, and every walk of life.

The *Law-enforcement* measures include encouragement of the closing of restricted districts; stimulating enforcement by State and municipal officials of laws and ordinances directed against prostitution in all its phases, the establishment and management of institutions for the rehabilitation of venereally infected persons, and the commitment to institutions of venereally infected feeble-minded persons; urging the adoption and enforcement of laws and ordinances compelling the reporting of the venereal diseases, the prohibiting of quack advertising, and the sale of venereal disease nostrums; and other measures designed to prevent the spread of the venereal diseases.

The *Medical* measures include the establishing of clinics; securing hospital facilities for venereally infected persons; making available laboratory facilities for the scientific diagnosis of venereal diseases; securing wide distribution of arsphenamine or similar products; obtaining the support of the entire medical profession by the reporting of their cases to the State Board of Health and the treating of venereally infected persons, in accordance with the best modern methods; securing the co-operation of druggists in refusing to dispense venereal nostrums and directing prospective purchasers of such remedies to venereal disease clinics, or reputable physicians; securing the co-operation of dentists and nurses in their respective fields of practice; and enlisting the interest and services of all medical, dental, and pharmaceutical schools, societies, and journals.

Under Medical measures, the campaign was begun with the advertising media of the country. The 20,000 newspapers and magazines carrying advertising were appealed to for co-operation, with the result that up to the present, according to agreement cards received, and clippings made, approximately 140 only, or less than one per cent, are still carrying obnoxious advertising. In other words, more than 99% of the newspapers and magazines in the United States carrying advertising are co-operating.

The next step in the campaign was directed to the druggists of the country. Out of the 48,500 appealed to, results up to the present, by return agreement card, show the co-operation of approximately 28,000 or nearly 60%.

After the druggists, the 131,780 legally recognized physicians in the United States were appealed to, with the result that agreement cards of co-operation have been received up to the present time, from approximately 60,000, or nearly 50%.

The campaign with the dental profession is just being launched; the campaign with the nursing profession and the training schools for nurses, is under way.

The campaign with the professional schools, hospitals, medical, dental, and pharmaceutical societies and associations—national, interstate, state, county, and municipal—has just been begun by a letter addressed to the deans of the medical and allied colleges of the country.

For your co-operation in bringing to the attention of the medical and allied professions of the country this campaign inaugurated in the medical and allied colleges of the country, for the extension of teaching on this subject, and the better qualification of the physician, as a specialist in the treatment of venereal diseases, the United States Public Health Service respectfully requests that you publish the letter in your next issue.

The Public Health Service thanks you for this co-operation, and confidently looks forward to your favorable action.

Respectfully,

RUPERT BLUE,
Surgeon General.

AN OUTLINE OF GENITO-URINARY SURGERY. By George Gilbert Smith, M. D., F. A. C. S. Genito-Urinary Surgeon to Out-patients Massachusetts General Hospital. 12mo of 301 pages with 71 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Cloth $2.75 net.

While this book pretends to be but an outline, it is sufficiently comprehensive to be of considerable assistance in making refined diagnosis of Genito-Urinary disease.

The indications for medical and minor surgery treatment is given in more or less detail and the technic of major surgery is outlined in sufficient detail to acquaint an operator with the exact aims, nature, possible complications and sequelae of major procedures.

The text contained is illustrated with the cuts from original drawings. The compend should serve as a ready and satisfactory reference for medical students and busy practictioners. J. P. M.

THE JOURNAL CLINIC

Edited by
L. M WARFIELD, Marquette University
and
J. S. EVANS, University of Wisconsin
(Address all communications direct to the editors)

FROM THE CLINIC OF THE UNIVERSITY OF WISCONSIN.

A series of cases having a similar symptom complex but with different underlying causative pathology is presented.

CASE I. H. H. Married. White. Female. Age 45.

Chief Complaint: Non-productive cough, dyspnoea upon exertion, pain in lower right chest.

History of Present Illness: Three weeks ago, following the subsidence of an acute coryza, a persistent cough, unaccompanied by expectoration, began. This has continued with increasing severity up to the present time, being worse at night, increased by exertion and following sudden changes in temperature spasmodic attacks are associated with nasal congestion. Moderate exertion produces dyspnoea. There is a dull non-radiating pain in the right chest from the sixth to the eighth ribs in the axillary region. Following coughing there is a severe fronto-parietal and occipital headache.

Past Medical History: Measles, mumps, pertussis and chicken pox during childhood. Frequent severe attacks of tonsillitis during girlhood and young adult life. Malaria ten years ago. Following an acute nasal infection seven years ago began to have marked nasal congestion with frontal headaches. Acute otitis media occurred six months later. At this time an acute endocarditis occurred. Appendectomy six years ago. Very toxic following operation. Recovery slow. Acute iritis five years ago, subject to more or less constant neuralgic pains in the post-cervical region and extending down the arms.

Family and Social History: No bearing on the case.

Physical Examination:

Temperature 98.2°; pulse 80; respirations 18.

Nasal: Marked hyperthropy of the middle turbinate on each side, showing polypoid degeneration. Small polyps protrude from the middle meatus. The middle meatus, following shrinkage of the inferior turbinates, is completely blocked anteriorly.

Tonsillar: Small, fibroid, embedded tonsils.

Dental: Pyorrhoea alveolaris and several teeth showing apical disease.

Lungs: Negative.

Heart: Mitral insufficiency. Moderate left ventricular hypertrophy.

Abdomen: Negative.

Pelvis: Negative.

Urine: Negative.

Blood: Hemoglobin, 85%.
Erythrocytes, 4,610,000.
Leucocytes, 7,200.
Polymorphonuclear neutrophiles, 59%.
Polymorphonuclear eosinophiles, 2%.
Polymorphonuclear basophiles, 2%.
Lymphocytes, 36%.
Transitionals, 2%.

DISCUSSION.

The history of cough following attacks of acute coryza, the negative pulmonary findings and the positive nasal findings with definite obstruction to normal drainage directed attention to a probable reflex cough caused by persistent nasal irritation. The nasal findings indicated a non-suppurative ethmoiditis. Nasal treatment was followed by lessened paroxysms of cough but recurrent nasal congestion caused a return. After three months' persistence, operation was advised. Chronic ethmoiditis with polypoid degeneration was found at operation. Following recovery from the surgical procedures complete disappearance of cough resulted.

This case illustrates the fact that non-suppurative nasal irritation and blocking can be the cause of persistent cough. The necessity of excluding pulmonary and cardiac causes should always be kept in mind in the diagnosis and treatment of all cases of reflex cough.

CASE II. E. B. Single. White. Female. Age 30.

Chief Complaint: Non-productive cough, dyspnoea upon exertion, at times attacks of asthma, pain in left chest.

History of Present Illness: For past three years has been subject to recurring attacks of persistent cough without expectoration. These attacks persist over a period of two or three weeks, the exacerbations of coughing usually occurring at night. Each fall the patient has hay fever at which time the cough is severe and is accompanied by asthma. Moderate exertion produces dyspnoea with an asthmatic type of breathing. During periods of severe cough there is pain in the left chest, more particularly over the upper lobe, both anteriorly and posteriorly. Cough produces a frontal headache which often persists for twenty-four hours and is frequently followed or accompanied by nausea and sometimes vomiting.

Past Medical History: Measles, scarlet fever, and pertussis during childhood. When sixteen years of age had severe attack of typhoid fever. Since then has been frail and underweight. At twenty years of age had pneumonia without complication or apparent sequellae. Frequent attacks of "grip" during the past ten years.

Acute nasal infections frequent up to three years ago when for the relief of the hay fever and asthma a middle turbinectomy was performed on each side of the nose. Immediately following this operation there was relief from the tendency to cough.

Family and Social History: No bearing on the case.

Physical Examination:

Temperature 98.2°; pulse 76; respirations 16.

Nasal: Marked deflection of the septum to the right high up. At the site of previous turbinectomy on the right side there is an overgrowth of granulation tissue, the touching of which with an applicator produces coughing and sneezing followed by asthmatic type of breathing.

Tonsillar: Enlarged, cryptic, diseased tonsils.

Dental: Negative.

Lungs: Cogwheel type of breathing at the left apex. Evidences of thickened pleura at the left base; otherwise negative.

Heart: Negative.

Abdomen: Negative.

Blood: Hemoglobin, 86%.
Erythrocytes, 4,870,000.
Leucocytes, 10.560.
Polymorphonuclear neutrophiles, 60%.
Polymorphonuclear eosinophiles, 4%.
Polymorphonuclear basophiles, 2%.
Lymphocytes, 26%.
Transitionals, 8%.

Sputum Examination: No tubercle bacilli found.

DISCUSSION.

The history of cough non-productive in character, having a definite relation to nasal congestion and nasal irritation, the nasal findings of septal deflection and granulation tissue which, when irritated caused reflex cough, the indefinite lung findings and the blood picture of an increase in polymorphonuclear eosinophiles and transitional forms, with a slight leucocytosis, all pointed toward a reflex cough which had its origin in the nose and the accessory sinuses. Operation on the nose was advised because of: 1, headaches; 2, local pain in the ethmoid region; 3, hay fever and asthma having a definite relation to nasal congestion, the asthma being due, in all probability, to the persistent nasal and ethmoid infection producing sensatization. Operation was done on the septum and left ethmoid. This procedure was followed by: 1, relief from cough and asthma; 2, marked increase in weight; 3, relief from hay fever.

Subsequent History: One year later this patient developed "grip" which was followed by cough this time productive in character. Lung examination revealed evidences of an active lesion in the right upper lobe and the left upper lobe. Tubercle bacilli were found in the sputum. The stereo-röentgengram of the chest showed: 1, an extensive lesion in the right upper lobe; 2, a more chronic involvement at the left apex and, 3, a left basal thickened pleura.

This case points out: 1, the value of the X-ray in excluding or determining the presence of pulmonary tuberculosis as a cause of cough; 2, a quiescent pulmonary lesion giving indefinite signs may be lighted up by some acute infection in the upper respiratory tract.

CASE III. L. E. C. Single. White. Male, Age 19.

Chief Complaint: Persistent non-productive cough, marked dyspnoea upon exertion, pain in the right chest.

History of Present Illness.: Two weeks ago contracted a naso-pharyngeal infection accompanied by bronchial symptoms. Nasal discharge profuse; cough associated at first with muco-purulent expectoration. This subsided in three or four days but a dry cough persisted. Seven days ago while coughing was seized with pain in the right chest which has persisted and which is exacerbated by the act of coughing, upon full expiration and by voluntary motion of the side. Since then cough has been fairly constant. Has been under physician's care. Pain so severe at times that morphia was used.

Past Medical History: Negative.

Family and Social History: No bearing upon the case.

Physical Examination:

Temperature 98°; pulse 90; respirations 24.

Nasal: Negative.

Tonsillar: Negative.

Dental: Negative.

Lungs: 1. There is limitation in the respiratory excursion of the right chest.

2. Tactile fremitus almost absent.

3. Hyperresonant note over right chest extending down to fourth or fifth rib in midaxillary line. At this point there is dullness.

4. Amphoric breathing over the right chest.

5. Voice sounds almost absent.

Heart: Area of cardiac dullness normal in size but is displaced to the left.

Abdomen: There is some rigidity of the right rectus muscle and the liver dullness is one rib lower than normal.

Urine: Negative.

Blood: Nothing abnormal.

Stereo-radiogram of the Chest: Shows complete pneumothorax of the left lung, the lung tissue being collapsed down to the hilum of the lung.

DISCUSSION.

The physical signs in this case would indicate a pneumothorax on the right chest. The X-ray examination confirmed this diagnosis. The condition probably resulted from rupture of a bronchus during coughing this allowing air to pass from the bronchus into the pleural cavity causing lung collapse. The patient had been examined two months previous to this attack and at that time the chest was normal. This fact indicates the suddenness of onset.

CASE IV. R. P. Single. White. Female. Age 25.

Chief Complaint: Non-productive cough, pain in the left chest, dyspnoea upon exertion. These symptoms have followed recent cold in the nose.

Past Medical History: Patient has had frequent upper respiratory cold most of her life; otherwise history negative.

Family History: No bearing on the case.

Physical Examination:

Temperature 98.4°; pulse 80; respirations 18.

Nasal: Hypertrophic rhinitis and septum deflected to the left.

Tonsillar: Negative.

Dental: Negative.

Heart: Negative.

Lungs: Signs of pleural thickening posteriorly over the lower left lobe. Pleural friction rub heard over this area.

Stereo-radiogram of the Chest: Shows thickened pleura at the base of both lungs, also increased peribronchial involvement at both bases.

Abdomen: Some increase in rigidity of the upper half of the left rectus muscle.

Blood: Leucocytes, 13,120.
Polymorphonuclear neutrophiles, 62%.
Lymphocytes, 35%.
Polymorphonuclear eosinophiles, 2%.
Polymorphonuclear basophiles, 1%.

Sputum: Negative for tubercle bacilli.

DISCUSSION.

The chest was strapped, the patient put at rest, and within three weeks both symptoms and the pleural friction had disappeared. The physical signs of thickened pleura at the left base, of course, remained present for a longer period of time.

This case illustrates a condition of reflex, non-productive cough resulting from pleural irritation. It also points out the probability of pleural involvement being secondary to infection in the upper respiratory tract.

CASE V. E. L. S. Single. White. Female. Age 17.

Chief Complaint: Non-productive cough and pain in the left chest following nasal cold, of one week's duration.

Past Medical History: Measles, mumps, during childhood. Tonsillitis frequently up to 1917 when tonsils were removed. Frequent nasal colds all of her life.

Family History: No bearing on the case.

Physical Examination:

Temperature 98.2°; pulse 78; respirations 16.

Nasal: Hypertrophic rhinitis and septum deflected.

Tonsillar: Negative.

Dental: Negative.

Heart: Negative.

Lungs: Auscultatory and percussion signs negative. On palpation of the chest wall there was marked tenderness elicited by pressing over the eleventh rib on the left side; at this point crepitus was also present.

Stereo-radiogram of the Chest: Revealed fracture of the eleventh rib of the left side with some displacement of fragments.

Blood: Normal.

DISCUSSION.

The left chest was put at rest by strapping. This was followed by complete subsistence of cough. This case illustrates fracture of a rib as the causative factor of cough in a case which had ample nasal irritation to have been the underlying cause and points again to the importance of eliminating other possibilities in cases of persistent cough.

GENERAL DISCUSSION.

This group of cases is presented to demonstrate five different causes for symptoms having a similar complaint (non-productive cough accompanied by pain in the chest). All of the cases gave past medical history of frequent upper respiratory infections; only two, however, being traceable to the upper respiratory tract and only one having its whole cause in this tract. The series emphasizes the necessity of utilizing all available means at hand in reaching a conclusion as to the cause of cough.

WAR NOTES

Captain S. J. Driessel of Barton, Washington county's first physician to see overseas service, has arrived in Hoboken, New Jersey, after an absence of nearly two years.

Dr. Benjamin Fosse of Beloit, has been promoted to the rank of major in the medical corps in France after fourteen months of service. Major Fosse has been in France eleven months, having served for six months as chief of a surgical section of Red Cross hospital number one in Paris, and later as commander of Red Cross hospital number 103. He is now in command of a hospital at the American embarkation center at Le Mans.

Major P. G. Lasche, formerly of Milwaukee, but who for a number of years practiced medicine at Richland Center, arrived recently from overseas on the transport Kentuckian in command of Field Hospital 357, attached to the 315th Sanitary Train of the 90th Division.

Captain E. P. Webb of Beaver Dam has returned to his home after being absent for nearly two years in the service. Dr. Webb spent several months in one of the largest hospitals of the American Expeditionary Forces near Langres.

Major A. J. McCarey of Green Bay has been cited for "exceptionally meritorious and conspicuous services". He was commanding officer of a Sanitary Train of the 4th Division in the second battle of the Marne, the St. Mihiel drive, and the Meuse-Argonne battle.

Lieutenant H. L. Garner of Rhinelander has recently returned from service overseas, having received his discharge from the service.

Dr. George D. Whiteside of Plover, who is in Red Cross service in France, has been awarded the medal of honor by the French government. Dr. Whiteside could not enlist in the army because of physical disability and so entered Red Corss service.

Lieut. Colonel Otho Fiedler of Sheboygan has associated in practice with Dr. Arthur Genter of that city.

Dr. F. W. Van Kirk of Janesville, formerly major of the 359th infantry, 90th Division, has returned to civilian life after spending nearly a year in France.

Dr. W. J. Frawley has resumed his practice in Appleton, having recently returned from service in the army, where he served as a captain in the medical section of the 151st Field Artillery.

Captain P. T. Trowbridge of Washburn has recently been discharged from service in the medical corps of the 32nd Division.

Dr. H. R. Bell, who returned on April third from overseas, has resumed practice in Marinette. Dr. Bell was in the physical training section of the Y. M. C. A.

Captain G. A. Bading, former mayor of Milwaukee, arrived home June 27. He left North China on May 2nd and has been traveling ever since, with the exception of the time he was waiting for a transport in Manila.

Colonel C. A. Evans of Milwaukee, commander and organizer of Base Hospital 22, has been cited for distinguished service by General Pershing.

Dr. J. E. Johnson of Holmen who has been in the army service expects to resume his practice there soon.

Lieutenant J. E. Simpson of Endeavor has returned from service overseas. He served with the medical detachment of the 23d Engineers.

Captain R. C. Montgomery is expected at his home in Madison soon. He arrived in France June 25, 1918, and was stationed at Base Hospital 66 until January first when the hospital was demobilized, and then served with Provisional Base Hospital number 1.

Captain C. C. Del Marcelle, who has just returned from two years' service, twenty months of which were spent overseas, has resumed the practice of medicine at Neenah.

Dr. Harold L. Garner of Rhinelander has returned home after several months' service overseas.

Captain James Dean, recently discharged from the 127th field hospital, the Madison unit commanded by Major W. F. Lorenz, has resumed his practice with his brother, Dr. Joseph Dean. Captain Dean served eighteen months and has been recommended for the French cross for gallant and distinguished service.

Captain Lyman A. Steffen has arrived in Antigo after an absence of nearly two years in England and France. where he served in British hospitals and with the British armies as medical officer. In recognition of his services, he has been twice cited for honors by the British government.

Dr. W. E. Buckley, has returned to Hartford from overseas, where he was connected with Field Hospital 161 of the First Army Corps. He saw continuous service until the armistice was signed, being located on the Argonne and St. Mihiel fronts.

Lieut. Harvey Fraser, former physician at West Salem. has been decorated with an Italian distinguished service medal. Fraser has the distinction of serving as a surgeon with armies of three countries during the war. Starting with the Canadians he was transferred to the American army and later to the Italian.

Captain E. R. Murphy. former Rhinelander physician, has returned to Antigo from a year's service in France. During the greater part of this time he was in the big American base hospital in Toul.

Dr. M. J. Trichler of Hancock, who has served in the medical corps of the U. S. army has arrived to start practicing as a physician in Black Earth.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY.

Frawley, W. J., Appleton.
Davis, I. G., Arcadia.
Shinnick, T. F., Beloit.
Pake, S. G., Hayward.
Elliott, R. S., Laona.
Egdahl, A., Menomonie.
Beffel, J. M., Milwaukee.
Durner, U. J., Milwaukee.
Foerster, H. R., Milwaukee.
Leahy, J. D., Milwaukee.
Murphy, W. J., Milwaukee.
Rogers, P. F., Milwaukee.
Wallschlaeger, G. G., Milwaukee.
Hanson, W. C., Racine.
Bellis, G. L., Wauwatosa.
Harrison, G. W., Ashland.
Ravn, E. O., Merrill.
Nelson, J. D., Milwaukee.
Rowley, C. C., Winnebago.
Rohow, F. M., Ashland.
Winnemann, W. J., Athens.
Webb, E. P., Beaver Dam.
Thompson, R., Black River Falls.
Doctor, W. R., Cazenovia.
Gosin, F. J., Green Bay.
Mueller, W. E., Green Bay.
Buckley, W. E., Hartford.
Ballard, J. A., Hayward.
Jorgenson, P. P. M., Kenosha.
Doolittle, S. W., Lancaster.
Cooksey, R. T., Madison.
Eyster, J. A. E., Madison.
Lorenz, W. F., Mendota.
Campbell, R. M., Milwaukee.
Farnham, C. R., Milwaukee.
Frew, J. W., Milwaukee.
Weber, A. J., Milwaukee.
Watkins, W. C., Oconto.
Combs, C. J., Oshkosh.
Scantleton, J. M., Sparta.
Erickson, H. C., Stanley.
Trowbridge, P. T., Washburn.
Abelmann, T. C. H., Watertown.
Willett, T., West Allis.

ORDERS TO OFFICERS OF THE MEDICAL CORPS, U. S. ARMY.

To Camp Dix, N. J., from Fort Riley, Lieut. H. A. Vincent, Beloit.

To Fort Sheridan, Ill., from Camp Dodge, Capt. G. R. Randall, Milwaukee; from Camp Upton, Major L. A. Moore, Monroe.

To Camp Grant, Ill., as tuberculosis examiner, from Camp Lewis, Lieut. L. F. Ruschhaupt, Milwaukee.

To Camp Meade, Md., from Dover, Capt. P. L. Scanlan, Prairie du Chien.

BOOK REVIEWS

THE SURGICAL CLINICS OF CHICAGO. Vol. III, No. 2, April, 1919. Published bi-monthly by W. B. Saunders Co., Philadelphia.

This number of the "Clinics" is replete with surgical discussions and clinic reports that should interest alike the busy surgeon and the occasional operator. It contains 243 pages and sixty-three illustrations, some of them full page. Forty-one subjects are discussed by seventeen different contributors. It is well indexed, and each case discussed is prefaced by a brief synopsis which is of great assistance to a busy reader.

Somehow it seems odd to hear Ochsner discuss fractures, hare-lip and cleft palate, but he does it interestingly and with his usual convincing directness. In a prelude to an appendectomy, Bevan gives an entertaining historical review of the development of our knowledge of appendicitis, as he has "lived through" it. Space does not permit us to record all the commendable things that might be said of the various contributors. One is somewhat disappointed at first to notice that many of the contributions differ in no important respect from ordinary medical journal reports on surgical subjects, written up at home in the calm and quiet of one's study. Such reports, written up in this fashion, lack the free and extemporaneous style of real clinic teaching, and have but few of the ear-marks of the ward or operating room, which one naturally looks for in a volume of "Clinics". However, this is not mentioned as a serious fault. On the contrary, a clinic case written up by the surgeon with cool deliberation, is more likely to be discussed with greater regard for accuracy of statement than one usually hears in the extemporaneous emissions caught by the stenographer at the side of the arena.

This number of the "Clinics" is one of the best that has come to our attention. C. M. E.

THE OPERATIONS OF OBSTETRICS. By Frederick Elmer Leavitt, M. D., formerly assistant professor of obstetrics and gynecology, University of Minnesota; obstetrician to the City and County Hospital, the St. Paul Hospital, The Bethesda Hospital, etc., St. Paul, Minnesota. By C. V. Mosby Company, St. Louis.

This book presents the subject from the operative viewpoint. It is and should be of considerable service to the general practitioner who is forced to conduct complicated deliveries.

The book is profusely illustrated, containing half as many ingravings as the total number of pages. Many of the cuts were prepared from original drawings made by the author. J. P. M.

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ORGANIZED 1841

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The Wisconsin Medical Journal, Official Publication

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SOCIETY PROCEEDINGS

BARRON-POLK-WASHBURN-SAWYER-BURNETT COUNTY

The regular meeting of the Barron-Polk-Washburn-Sawyer-Burnett County Medical Society was held at Cumberland, June 3, 1919. The society was addressed by Dr. F. A. Tate, Secretary of the State Board of Dental Examiners, on "Focal Infection of the Mouth." Miss Thomas, county nurse of Barron County, also addressed the meeting on "Problems of the County Nurse". Both papers were very interesting and were the subject of lively and profitable discussion.

D. L. Dawson, M. D., *Secretary.*

DANE COUNTY

The Dane County Medical Society held a meeting and dinner at the Madison club, May 26, in honor of the medical men who have returned from overseas service. A number of interesting talks were given by these doctors, on their field hospital experiences.

H. P. Greeley, M. D., *Secretary.*

GRANT COUNTY

A meeting of the Grant County Medical Society was held at Lancaster, May 29. Captain S. W. Doolittle, who had charge of a base hospital at Vichy, France, and Major J. H. Fowler, who did hospital service in this country, gave very interesting talks. The election of officers resulted in the choice of the same ones who served during the past year. The influenza epidemic of the past season was fully discussed.

J. C. Betz, M. D., *Secretary.*

KENOSHA COUNTY

The Kenosha County Medical Society held a meeting at the Elks' Club, Kenosha, May 22. Dr. Fletcher of Marquette University gave an address on "Stones in the Kidneys". Health Commissioner G. Windesheim presented a proposition backed by the federal and state governments to establish a venereal clinic branch in Kenosha. The meeting adjourned after lunch had been served.

J. F. Hastings, M. D., *Secretary.*

MANITOWOC COUNTY

At the annual meeting of the Manitowoc County Medical Society, Dr. John Kelly, Cato, was elected president; Dr. E. C. Cary, Reedsville, secretary, and Drs. F. H. Luhman and W. E. Donohue of Manitowoc, censors.

E. C. Cary, M. D., *Secretary.*

MILWAUKEE MEDICAL SOCIETY

At the regular meeting of the Milwaukee Medical Society, May 27, held in the rooms of the society in the Colby-Abbott Building, the following program was given, "Heliotherapy at Muirdale—Results of Treatment," Dr. Harry Cohn; "'Movie Film'—The Rollier Treatment of Surgical Tuberculosis at Buffalo, N. Y.;" "Meningocemia and Its Relationship to Cerebro Meningitis," Dr. A. J. Patek.

The regular meeting of the Milwaukee Medical Society was held in the rooms of the society, Colby-Abbott Building, Milwaukee, Tuesday, June 10, at 8 P. M. The following program was given, "Hypertrophic Stenosis of the Pyloris in Infants," Dr. P. H. McGovern; "Some Surgical Lesions of the Oesophagus, with Lantern Slides," Dr. Francis McMahon. After the program a meeting of the Council was held.

Oscar Lotz, M. D., *Secretary.*

RACINE COUNTY.

The regular meeting of the Racine County Medical Society was held Thursday, March 27, 1919, at the Elks' Club rooms, Racine. Dr. F. C. Christensen of Racine addressed the meeting on the subject of "Experiences at the U. S. Disciplinary Barracks, Fort Leavenworth, Kansas." The next regular meeting will be held at Brown's Lake, Racine County.

Susan Jones, M. D., *Secretary.*

CORRESPONDENCE

Oshkosh, Wis., June 21, 1919.

Dr. Rock Sleyster,
Wauwatosa, Wisconsin.

Dear Dr. Sleyster:

In reading the review of Dr. Tyler's "Roentgenotherapy" in the May issue of the Journal by W. T., a word for the author seemed appropriate.

May I submit the question, is the review a fair and just criticism?

Dr. Tyler is complimented on his preface and then charged with failure to make good. In the same paragraph it is stated that the book is for beginners and then that far greater knowledge is presumed than could be possessed by a beginner.

I have been attempting X-ray work for some eighteen years, yet I feel that I am only a beginner in this great and important field in science. I am very glad to possess a copy of this work and prize it highly.

Dr. Tyler may have a different estimate of beginners in X-ray practice than the critic. He assumes that beginners in X-ray work shall possess a knowledge akin to that fitting them for any other specialty in Medicine or Surgery.

W. T. criticizes the pathology and diagnosis. Does he use any other method for diagnosis before treatment, therapeutic or operative, in the majority of his cases?

Roentgenotherapy is based upon all methods except microscopic section, and often this is employed. Many cases for which formerly there was no relief, save the scalpel or escharotics, are cured without the necessity of surgical measures.

Roentgenologists have no wish to eliminate in any way or reflect upon surgery, but do expect and demand more intelligent co-operation.

The patient should have all that surgery can give, and then the earliest opportunity to commence X-ray treatment, wherever of promise.

The critic seems sadly in need of more extensive research in roentgenotherapy of the fibroid.

Records of many operators show relief and cure of a large percentage of cases by X-ray and Radium, either used separately or combined by competent operators. This without mutilation, pain or operation dangers.

Will the critic read the latest reports of Howard Kelly of Baltimore concerning Radium treatment of Uterine fibroids?

One of the ablest operators now only in exceptional cases resorts to the knife. As to the percentage of Sarcoma complications, will the critic explain the danger or mistake of X-Radiation in such cases? Has he not known of Sarcoma cured by X-ray and Radium in non-operative or those resistant to operative measures? A combination of both may be highly desirable whenever fairly possible.

Roentgenization of the Uterine fibroid is worthy of serious consideration in all cases when not menaced by active hemorrhage.

The next criticism is upon Leucoplakia. What is malignancy? Is it advisable to be so positive about malignancy? If it is something, that, challenging the best treatment, still maintains mastery—the leucoplakia must be a near relation.

Is justice done to the author in asking that this book be kept from the bookshelves of the general practitioner? Yes, unless he is intelligently practicing Roentgenology, or desires to become more intelligent regarding it.

As to the author's Roentgenographic optimism, it is susceptible of proof to the unbiased.

Fraternally,

G. M. Steele.

NEWS ITEMS AND PERSONALS.

Through the co-operation of the chamber of commerce, municipal authorities, various civic organizations, and the medical men, the city of Janesville is to have a free medical dispensary. The dispenary will be located on the second floor of the city hall and a venereal disease clinic will be one of the prinicipal features of the new office. Janesville is the third city in the state to take action to establish a chain of community health centers.

A campaign was recently launched in Kenosha to raise ten thousand dollars a day for ten days, this to be given to St. Catherine's Hospital. The cause and the compaign are strictly non-sectarian.

Dr. W. A. Evans of Chicago gave a public health talk at the Colonial Theater, Waukesha, June 12th. The lecture was given under the auspices of the Waukesha County Medical Society.

The Milwaukee Maternity and General Hospital, which is the outgrowth of the Milwaukee Maternity Hospital, expected to move into its new quarters in the old Columbia Hospital about July first. It was thought best to enlarge the scope of the institution and make it a general hospital. In its charitable and educational work, however, it will continue along the lines of better obstetrics and child welfare.

Dr. J. J. Schoofs of Johnsburg has moved to Fond du Lac where he will engage in practice. His practice at Johnsburg will be continued by his son, Dr. O. P. Schoofs, who has recently returned from army service.

A campaign is to be launched about the middle of July by the Lutherans of Superior for a modern hospital. This campaign was to have been launched two months ago but was postponed in order not to interfere with the Victory Loan drive.

Commencement exercises for the Mount Sinai Training School for Nurses were held Thursday, June 5. Dr. A. J. Patek gave the opening address and Dr. J. L. Yates delivered the address for the evening.

Lyman, Derge, Curtis, and Lyman is the present firm name of the medical clinic formerly composed of Lyman, Derge, Curtis, and Ziegler, in Eau Claire.

The bequest to the Kenosha Hospital from the will of the late Mrs. Elizabeth Moore totaled $20,000. The will provides that the money shall be used for the endowment of two beds at the hospital.

Dr. W. M. Johnson of Dale has located at North Freedom and is accupying the offices formerly used by Dr. Dierschke.

The training school of nurses of the Milwaukee Hospital graduated fifteen nurses at the commencement exercises, May 29. During the year, 115 have received diplomas.

"Bradley Memorial Hospital" and "University Infirmary" are the names just given by the regents to the two newest structures on the campus of the University of Wisconsin. The two buildings are similar in size and design, are the first of the new medical group, and are the first buildings on the campus to be erected largely through private contributions.

A township nurse, the first in the state, will be engaged by the town of Laona, Forest County, according to Dr. Louis Dorpat, deputy state health officer for northern Wisconsin.

Dr. Hubert Devine has begun the practice of medicine at North Fond du Lac and is occupying the offices of Dr. J. J. Rehorst. Dr. Rehorst has become associated with Dr. S. E. Gavin of Fond du Lac.

The first class of Public health instructors of the Wisconsin Anti-Tuberculosis Association held graduation exercises June 19 at the Ethical Hall, Milwaukee. There were nine members in the class.

Dr. S. E. Gavin of Fond du Lac left recently to attend the graduation exercises of St. Mary's College, Emmitsburg, Maryland, where the degree of LL. D. will be con-

ferred upon him. This honor is given in appreciation of the splendid work done by Doctor Gavin at the college during the influenza epidemic while he was in army service at Camp Colt.

Examinations of the second million drafted men show that Wisconsin stood among the best in low percentage of venereal disease infection, according to figures received by the state board of health from the U. S. Public health service. This state ranked eighth, the same position it held for the first million examined. Wisconsin was led by only Vermont, South Dakota, Porto Rico, Utah, North Dakota, New Hampshire, and Hawaii. Of all cities between 100,000 and 500,000 population, Milwaukee ranked ninth in low venereal disease infection of drafted men, with a percentage of 2.55.

Dr. F. J. Hager has resumed the practice of medicine and surgery at Denmark.

Mayor Hoan has vetoed the resolution passed by the common council which provides that the school hygiene department be placed under the supervision of the city health department. He declares in his communication to the council, however, that he is not opposed to the consolidation, but believes it should be given further study.

In acceptance of a proposition made by the state board of health through its representative, Dr. G. W. Henika of Madison and following a conference with a committee representing the Winnebago County Medical Society, the commission council has decided to establish a general and venereal disease clinic in Oshkosh, according to the federal and state plan for the financial organization of such a clinic. Dr. Bertha V. Thomson, city health commissioner, Dr. Frank Brockway and Dr. J. M. Conley are the members of the committee from the Winnebago County Medical Society.

Dr. John Till, famous "plaster doctor" of Turtle Lake, was sentenced to serve a sixty days' jail sentence in Barron County by Judge Foley, of New Richmond, for practicing without a doctor's license.

The recent action of the Jefferson county board in voting to increase its appropriation for a county tuberculosis sanatorium from $50,000 to $100,000 and to erect an institution with a capacity of forty-six patients instead of the smaller sanatorium originally planned for is of special interest to residents of Rock County in view of the fact that the Rock County Medical Society at its last meeting appointed a special committee to attend a meeting of the county board and urge immediate construction of the Rock county sanatorium. The action of the Jefferson county board followed a careful survey of conditions in the county by members of the Jefferson County Medical Society and their expressed conviction that there are between 300 and 400 active cases of tuberculosis requiring attention in the county.

Milwaukee county's new free medical dispensary is to be opened in the Alhambra building, Fifth Street and Grand Avenue, before Aug. 1. It will be the first unit of the new county hospital, which is proposed to be established on the former Schandein estate, Twenty-fourth Street and Grand Avenue.

The state senate received Gov. E. L. Philipp's veto to the Skogma Christian Science bill. The Skogma bill would place Christian Science treatment under the provisions of the workmen's compensation law. Gov. Philipp in his veto said that he had no quarrel with any man of mature age who desires to accept science treatment on his own responsibility. However, he said, he does not think that this treatment should be recognized as on a par with medical treatment within the provisions of the compensation law. He pointed out the danger of extending the provisions of the workmen's compensation law in this direction if occupational diseases are to be brought within the terms of the compensation act.

The Ashland General Hospital now has 35 beds with an average of 30 patients daily, according to the report of the association issued by its president, Dr. J. M. Dodd. Beginning in a small way in 1917 with the purchase of the L. C. Wilmarth homestead, the hospital has gone steadily forward until at present there is $62,000 invested in the property. The second and third floors of the new extension to the building are yet to be finished, which together with the installation of an elevator, will cost about $50,000. When completed, the hospital will accommodate 75 patients.

Dr. W. W. Armstrong, connected with the Chicago health department for eleven years, has been appointed health commissioner of La Crosse at a salary of $3,000, to succeed Dr. J. M. Furstman, who resigned to accept a similar position at Bloomington, Ill.

Cancer has taken rank as one of the chief causes of death in the state, with 1,893 deaths in 1918 and an average of 1,813 a year in the last eight years. The annual mortality in the U. S. is estimated at 80,000, compared with 150,000 for pulmonary tuberculosis. While the "great white plague" prevails at all ages, cancer is essentially a disease of adult life. At ages over 40, cancer causes one death out of every eight women, and one out of every fourteen among men. Eighty-five per cent of all cancer deaths occur at ages of 45 and over. The disease is on the increase in every civilized country.

DEATHS

Dr. W. W. Squire, former resident of Marinette, died in Visalia, California, May 15, at the age of 71. He was a member of the Masonic order, Marinette chapter, Milwaukee consistory and Knights Templar, Visalia commandery. He died of cancer after months of suffering.

Dr. E. E. Nussle, Sr., Chippewa Falls, died at St. Joseph's Hospital, June 7, 1919, aged 66 years, of hemorrhage of the heart. He was born in Switzerland in 1853 where he received his early education. He practiced medicine one year in Germany after which he came to this country.

Dr. Greggar Smedal of La Crosse, for several years a member of the medical firm of Christensen, Gundersen, and Smedal, died at his home after an attack of pneumonia, June 6, at the age of 44. Dr. Smedal was born in Telemarken, Norway, and attended the public school and the academy at Seljord, Norway. At the age of 18 he entered the military academy at Kristiansand from which he was graduated three years later, then served as a commander in the Norwegian army. Later he continued his studies at the University of Christiana from which he received the degree of bachelor of science. In the year 1900 he emigrated to the United States and entered Rush Medical College, Chicago, graduating in 1903, after which he practiced his profession in La Crosse until the time of his death. He was a member of the La Crosse County, Wisconsin State, and American Medical Associations.

MARRIAGES

Dr. Frank O. Brunkhorst of Hortonville, to Miss Amelia Rohrbeck of Pacific, at the home of the bride's parents, June 12.

Dr. M. A. McGarty, La Crosse, to Miss Mary G. O'Connell, La Crosse, June 16.

ORTHOPAEDIC SURGERY. By Royal Whitman, M. D., M. R. C. S., Eng., F. A. C. S. A Director of Military Orthopaedic Teaching; Chairman of the Medical Advisory Board for Orthopaedics in New York City; Associate Surgeon to the Hospital for Ruptured and Crippled; Orthopaedic Surgeon to the Hospital of St. John's Guild; Consulting Orthopaedic Surgeon to St. Agnes' Hospital for Crippled and Atypical Children, White Plains, to the New York Home for Destitute Crippled Children and to the New York State Board of Health; Corresponding Member of the British Orthopaedic Society; Member of the New York Surgical Society, etc. Lea & Febiger, Philadelphia and New York, 1919.

This book represents the author's accumulation of a large surgical and orthopaedic experience over a large number of years and must surely prove of great value to both medical and surgical practitioners. As a text book for students, there probably is none better. The practical and refined methods and points in the diagnosis and differential diagnosis of the diseases of the bones and joints are very well presented. The prognosis and the treatment are clearly defined and outlined. The difficulty of the selection of illustrations for such a book has been successfully met with. The chapters on tuberculosis of the spine, anterior poleomyelitis, deformities of the foot and military orthopaedics are especially commendable. F. B. M.

Visitor—Sir, I am collecting for the Poets' Hospital. Will you contribute anything?

Editor—With pleasure! Call tonight with the ambulance, and I will have a poet ready!—*London Tit-Bits.*

PUBLIC HEALTH AND LABORATORIES

Edited By W. D. STOVALL, Madison and MRS. LOUISE BRAND, Milwaukee

ADVANCEMENT OF PUBLIC HEALTH.

ORGANIZATION OF HEALTH DEPARTMENTS.

W. D. STOVALL, M. D.

In these discussions of public health I have taken up methods. Some organization is required to properly carry out these methods. It seems proper now to say something about the organization of departments of health.

The actual need of well organized health departments is not hard to demonstrate. The economic value which would accrue to the nation, states and communities, by preventing a reasonable amount of the preventable sickness and death is not begun to be realized. Conservative estimation puts the cost of sickness and death in Wisconsin each year above ten million dollars, and a great deal of this is preventable. The draft boards found that thirty per cent of the boys between the age of twenty-one and thirty-one had to be rejected for military service because of physical disability. Statistics could be multiplied to demonstrate the necessity for unified and centralized health organizations for nation, state and community. Recently Dr. B. S. Warren, Assistant Surgeon General of the United States Public Health Service has written so well upon the necessity of well organized health departments that I have used liberally of his paper.

"In the matter of health organization some analysis of the responsibilities and relations of the several governmental agencies is necessary in order to determine the character of organization which would result in a 'unified health service'. With our form of government, the Federal, State and local political subdivisions have certain responsibilities. Within each of the governmental administrations there are several departments, bureaus, or divisions which have definite relations to health. Furthermore, the legislative branches (Federal, State, and local) have definite relations and responsibilities. In framing any health legislation all of these must be considered and worked out so that the proposed organization will function harmoniously, and result in a 'unified health service'.

"In the beginning of this discussion it may be well to realize that a perfect health machine is not to be expected, but it should be planned so that it will be elastic and easily adjusted, as changing conditions or experience of operation may indicate. It would therefore seem relevant to discuss (1) the Federal, State, and local governmental responsibilities, and (2) the relations to the departments, bureaus, or divisions which are more or less directly interested in the health of the people.

"The Federal Government has at least three definite responsibilities in the field of public health—international control of disease, interstate control of disease, and a general interest in the health of all the people from the general welfare point of view. For the international control it operates the maritime quarantine, and supplements this by the work of its consular service and the detail of Public Health Service officers to the places which are likely to become a menace. For the interstate control of disease, the Federal Government under several acts of Congress undertakes certain measures, mainly through co-operation with State and local health authorities, and uses the Public Health Service for this purpose. In the past, the Public Health Service has largely confined itself to measures of control after the disease needing control had gained a foothold in a State and become a menace to other States. Under more modern methods, however, it has realized that its activities should be aimed at these diseases long before they become a menace. As an example of the latter methods, the Service is inaugurating a system of control of water supplies furnished to the traveling public by interstate common carriers. As a part of its general welfare interest, the Congress has authorized the Public Health Service to investigate the diseases of man and the conditions influencing their propagation and spread, including sanitation and sewage, and the pollution of lakes and navigable streams.

The State, like the Federal Government, has at least three responsibilities in the field of public health—the prevention of the introduction of disease from without, the control of the intercounty, or intermunicipal spread of disease, and the health of all the people within the State from a general welfare point of view. These responsibilities can be met only by some degree of State control over local health conditions. This control should be more than advisory and should be applicable at all times within the localities and not limited to the times and places when and where there is a menace to other localities.

The local government administrations also have at least three responsibilities in the health field—the prevention of the introduction of disease from without, the control of disease within the jurisdiction, and the health of the people from a general welfare point of view.

"From the above it would seem that Federal, State and local health authorities in some degree have identical responsibilities. Then, if we are to have a 'unified health service' there should be very close co-operation on account of this community of interest. For example, a case of typhoid fever in a remote rural district is a matter of joint interest to the County, State, and Federal health authorities. The typhoid germ does not recognize county or State lines and may finds its way into intra and interstate traffic and cause the loss of many human lives and the expenditure of large sums of State and Federal funds. The rational procedure would be to prevent or control all preventable diseases at their source. In the formation of this partnership due consideration must be given in its organization to the other departments, bureaus or divisions and groups of people which are more or less directly interested in health work. The most important of these may be mentioned as follows: The medical profession, and an adequate medical service for all the people; the child welfare agencies and the prevention of infant mortality; the department of education and the health supervision of the school children; the Department of Labor and the health of the workers; the Department of Agriculture and the rural health; the various groups interested in the control of special disease, like venereal diseases, tuberculosis, etc.

"In these days of progress in preventive medicine there is some tendency to separate too sharply the preventive from curative medicine. It should not be forgotten that an adequate medical service to the whole people will do more to prevent disease and disability than any other single measure to be considered. At present the people in the United States are paying out money sufficient for the maintenance of an adequate medical service, but fail to receive it. This money, however, is spent in such a haphazard manner that the service is not only often inadequate or worthless but at times actually harmful. For one item—drugs—the United States spends $500,000,000 a year.

This sum alone, if properly expended, would buy all necessary drugs and add $2,000 a year to the income of each of the 125,000 physicians in active practice in the United States. It may be safely stated that an adequate medical serviee can not be had except in our medical centers, and in these centers only the rich and some of the charity patients receive such service. The great middle elass can not afford such expense. Since the people as a whole are paying the price for the best, there should be no reason why they should not have the best. With a proper organization, distribution, and training of the medical and sanitary personnel of the country, and a proper expenditure of the funds now being spent for medical purposes, there would be available, to every person, adequate medical and hospital services and supplies. With such service closely co-ordinated with, or forming part of, the health department, it needs no argument to show that disease prevention would begin at the source—the bedside, and eliminate a large proportion of disease spread.

"In some governmental administrations there have grown up, outside of the health departments, child-welfare agencies which have practically taken over the matter of prevention of infant mortality. These agencies may have assumed this responsibility, but health departments can not thus escape their responsibility for infant health. This is but a part of the whole question of public health, and child welfare agencies must be auxiliary to health departments or be made a part of them in so far as the infant health is concerned. Without doubt these activities should be so correlated as to prevent duplication of work, and that part of the work which relates to medical and sanitary matters should be the particular province of the health department.

"The relations of the departments of education to health departments have likewise to be considered in any unified health service program. Like child-welfare agencies, the departments of education in some jurisdictions have taken on health functions and have organized school-hygiene divisions, more or less independent of the health departments. Where the school-hygiene divisions are doing good work the organization should be utilized, but it should be brought under such relation to the health departments that it would be auxiliary to that of the health department. So far as the internal school administration is concerned, it may be necessary to have the health work under the immediate control of the school boards, but the standards governing the health work should be fixed by the health departments. Furthermore, the medical inspection of the children should be under such supervision by the health department that the findings may be of the greatest service in the control of disease. It should be clearly recognized that the health departments are responsible for health conditions in all age groups, and that those in the school-age group are not to be excepted. Further it should also be clearly recognized that only the questions of health which relate to the child's ability to attend school regularly and to learn his lessons are the concern of the school authorities, and only then in so far as they are responsible for the efficient expenditure of educational funds.

"Industrial hygiene is another subject which must be given careful consideration in working out a unified health-service program. All labor departments are vitally concerned in this subject. The War Labor Board announced as one of the principles governing its awards, a living wage sufficient to maintain a family in health and comfort. With such a recognition of the importance of health it then becomes the duty of the health departments to work out the standards of health in industry and to co-operate with the labor departments in their enforcement. In this group of the population, as in school children, it should be clearly recognized that the health departments are responsible for the health of all the people and that the industrial workers are no exception. Labor departments should not therefore organize independent health bureaus or divisions but should call upon the health departments to do this work for them.

"In the matter of rural hygiene, there has been much study and investigation of rural health conditions. These have shown the great need of permanent health organization in this field. The results obtained by such organizations under intelligent direction have demonstrated their value, but progress is slow. Something must be done to stimulate the development of rural hygiene. The Federal and State authorities, as well as the local governments, have a definite responsibility and should make common cause of this work and agree on a working plan which will place rural health service at least on a par with urban health work, as exemplified in our progressive city health departments.

"Before leaving this question of the relation of health departments to other departments, bureaus, and agencies, it would be well to remember that the volunteer and endowed health agencies will be found to be a great help in developing a 'unified health service' if they are utilized in a proper manner. In all places where today they exist they should be consulted and some practicable plan worked out for using them and bringing them under proper governmental control. At present some of these agencies are developing independent organizations which are exercising some sort of direction in Governmental health affairs. In a democratic government there should be no agency directing governmental administration which is not responsible to the people. Such agencies must be controlled and made auxiliary to Government administration.

"Referring now to State health organizations, I may say that Surgeon Carroll Fox, of the United States Public Health Service, has made intensive studies of many State health organizations, and, upon the request of the several state authorities, has submitted recommmendations for their improvement. A review of these reports shows a striking uniformity in most of the essential recommendations, which are about as follows:

"1. All health activities should be brought together into one department—the health department.

"2. There should be a small State board of health (seven) with advisory and quasi-legislative functions, appointed for a definite term of office (seven years), with the terms so arranged that only one term will expire within one year.

"3. There should be one chief executive of the health department, who should be held responsible for the proper administration and enforcement of all the health laws and regulations. He should be a man skilled in knowledge of preventive medicine, with experience in health work and health administration. He should be appointed for a term of years (six), and his tenure of office should be subject only to efficiency and good behavior. He should give all of his time to his office and not engage in the private practice of his profession.

"4. The department should be composed of bureaus or divisions in charge of chiefs who give all of their time to their work. The bureaus or divisions recommended vary somewhat according to States, but are generally as follows (the names indicating the functions): (a) Vital statistics; (b) communicable or preventable diseases, or epidemiology; (c) public health engineering; (d) infant welfare, or child hygiene and school hygiene; (e) health education; (f) industrial hygiene; and (g) administrative or clerical.

"5. The State should be divided into convenient health districts, varying according to local necessity from 4 to 20, each district to be in charge of an all-time district health officer. Under the direction of the health department these officers should have sufficient authority over local health administration in their districts to enforce the State health laws and regulations, but not thereby relieving the local health authorities of their local responsibility.

"6. The appointment of all chiefs of bureaus or divisions, district health officers, engineers, scientific personnel, public health nurses, and employees should be for a probationary period and after satisfactory examination. These appointments should be permanent, subject to efficiency and good behavior. The field officers should constitute a mobile corps subject to change of station within the State. In addition to the value of a trained health personnel, Fox seems to stress in his reports the value of public health nurses and advises their employment in such numbers as the appropriation will warrant.

"7. There should be an annual conference of the State field forces and local health officers with the health department.

"8. In the matter of amount of appropriations, Dr. Fox varies his recommendations considerably, but states that where practicable two per cent of the State revenue should be devoted to State health work, and two per cent of county revenues to local health work. But in the cities a larger per cent would be required for city health work.

"9. Concerning laws and regulations governing measures for disease reporting and control, milk supplies, water supplies, sewage disposal and the like, the recommendations are numerous and vary considerably according to local conditions.

"The above recommendations, as outlined, are very generally accepted by health workers as the basic principle upon which to build a State health department.

"In most of the States, outside of the larger cities, the local health organization is for the most part a question of part-time service by the health officials, though some counties now have all-time health officers who are demonstrating their value. While waiting for this progressive spirit of public health service to reach out into all the counties the district health officers of a State organized as outlined above can make much progress, especially if the local organizations can afford the services of a full-time public-health nurse to place under his direction.

"Whether urban or rural, and whether organized on a part-time or an all-time service basis, the local health organization should be correlated with the State health department, so that a unified health service would be the result.

"Within certain limitations people can have such hygienic conditions as they choose to buy. The one big essential is the appropriations. You may have a model law and an ideal plan for health organization, but without adequate appropriations the results will be disappointing. It then becomes the duty of Federal, State, and local health agencies and other groups interested in the health of the people to work together to demonstrate the value of health work, and to create such a public demand for it that the people will insist on the best and will be willing to pay the price."

No. 370, S.] [Published June 6, 1919.

CHAPTER 272, LAWS OF 1919.

AN ACT to amend sections 1437 and 1437a of the statutes, relating to the promotion of anatomical science.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. Sections 1437 and 1437a of the statutes are amended to read: Section 1437. Every public officer located and residing in the western United States judicial district, for the state of Wisconsin having charge of the body of any deceased person required to be buried at public expense, shall promptly notify the relatives or kindred of such deceased person, if he knows or can with reasonable diligence ascertain any of them, and deliver the body to any relative or kindred who shall claim the same, within a reasonable time after notice; but if any relative or kindred, or anyone in their behalf, shall not claim the same within forty-eight hours after death, or if the relatives or kindred notified shall have expressed acquiescence in the disposition thereof hereinafter mentioned, such officer shall at the expense of the University of Wisconsin immediately notify the demonstrator of anatomy of the university by telegraph, if practicable, or in any other expeditious manner, that such body is at his disposal for anatomical purposes. The said demonstrator, when generally authorized thereto by the regents, shall immediately upon receipt of such notification, inform the officer whether such body is desired for such purpose. If he signify that it is so desired, the officer shall deliver the body properly encased for transportation without charge to the agent of the express company at the nearest railroad station, consigned to such demonstrator, or to his agent authorized to receive it; provided, that if previous application for bodies shall have been made to the regents of the university by any duly incorporated college or colleges or medical schools in said district, he shall under the direction of the president of the university, or in his absence the vice-president, equitably distribute such bodies between the university and the applying colleges and schools according to their respective needs and claims, the institution receiving the body paying the transportation expenses incidental thereto. If the demonstrator shall not desire such body for such purpose for the university or applying college or school, then he shall immediately notify the * * * MARQUETTE UNIVERSITY of Milwaukee, Wisconsin, and thereupon such public officer, upon like application if immediately made, and like assumption of liability for expenses, all as aforesaid, shall without charge, deliver such body so encased for transportation to such express company's said agent consigned to said * * * MARQUETTE UNIVERSITY, which shall first present him an order therefore, signed by the president or secretary thereof, which order shall state that such body shall be used only for the promotion of anatomical science within this state, and that the remains of such body not so used shall be afterwards decently buried or cremated in compliance with such regulations therefor as the state board of health shall prescribe.

Section 1437a. Every public officer located and residing in the eastern United States judicial district for the state of Wisconsin, having charge of the body of any deceased person required to be buried at public expense, shall promptly notify the relatives or kindred of such deceased person. If he knows or can with reasonable diligence ascertain any of them, and deliver the body to any relative or kindred who shall claim the same within a reasonable time after notice, but if no relative or kindred or anyone in their behalf shall claim the same within forty-eight hours after death, or if the relatives or kindred notified shall have expressed acquiescence in the disposition thereof hereinafter mentioned, such officer shall immediately notify such agent as shall be appointed * * * by * * * MARQUETTE UNIVERSITY of Milwaukee, Wisconsin, by telegraph if practicable, or in any other expeditious manner, that such body is at his disposal for anatomical purposes, and shall deliver such body without charge to the agent of said * * * UNIVERSITY so appointed, or properly encased for transportation, to the agent of the express company at the nearest railroad station consigned to such incorporated * * * UNI-

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VERSITY as such * * * appointed agent shall direct, provided that if pervious applications for bodies shall have been made to the said * * * appointed agent by any other duly incorporated college or colleges or medical schools in said district, he shall under the direction of the president * * * of said * * * UNIVERSITY, or in * * * HIS absence * * *, the vice-president acting, equitably distribute such bodies between the said * * * MARQUETTE UNIVERSITY and said other incorporated colleges and schools in said district, according to their respective needs and claims, and such body shall be consigned to the distributee accordingly, the institution receiving the same paying the transportation expenses incidental thereto and presenting to such public officer an order therefor signed by the president or secretary of the UNIVERSITY, college or school to which the same is to be given, stipulated for the payment of such transportation expenses, and stating that such body shall be used only for the promotion of anatomical science within this state, and that the remains of such body not so used shall be afterwards decently buried or cremated in compliance with such regulations therefor, as the state board of health shall prescribe.

Section 2. This act shall take effect upon passage and publication.

Approved June 3, 1919.

COPY LAW.

No. 285, A.] [Published June 11, 1919.

CHAPTER 311, LAWS OF 1919.

AN ACT to repeal section 697—10m of the statutes, and to create section 697—10m of the statutes, relating to public health nurses.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. Section 697—10m of the statutes is hereby repealed.

Section 2. There is added to the statutes a new section to read: Section 697—10m. 1. The board of supervisors of every county shall, within two years after July 1, 1919, employ upon the certification of the state board of health, as herein provided, one or more public health registered nurses, or public health instructors, whose duties shall be as follows: To act as health supervisor for all schools not already having school inspection either by a physician or school nurse; to assist the superintendent of the poor; to instruct tuberculosis patients and others in preventing the spread of tuberculosis; to assist in reporting existing cases of tuberculosis and other communicable diseases; to assist in investigating cases of delinquency, neglect and dependency of juveniles, including state aid to dependent children, in counties not employing a probation officer; to assist in investigating cases of non-school attendance in districts where a school attendance officer is not employed; to assist in investigating cases of infringement on child labor laws; to investigate cases of crippled children due to infantile paralysis or other causes; to act as health instructor throughout the county and to perform such other duties as may be assigned to her.

2. The qualifications of all candidates for the position of public health registered nurse or health instructor shall be determined by a committee of three examiners, one to be selected by the state board of health, one by the committee of examiners of registered nurses and one by the state superintendent of public instruction. All candidates recommended by the committee of examiners shall be certified by the state board of health to any county board upon request and every public health registered nurse or public health instructor employed by any county after July 1, 1921, shall be selected from the certified list furnished.

3. The work of the public health registered nurse or health instructor shall be directed by a committee composed of the chairman of the county board, the county superintendent of schools, a woman appointed by the county board, the judge of the juvenile court and the deputy state health officer for that county to be known as the county health committee.

4. Such public health registered nurse or health instructor shall at the end of each month make a written report to the county health committee which shall file the same with the county clerk and send a duplicate copy of such report to the state board of health which report shall show briefly the work done during the month and such other information as the county health committee or the state board of health may from time to time require. The state board of health shall examine all reports filed by the county health registered nurses or county health instructors and make such recommendations to them as will aid in the proper administration of their work.

5. The state board of health shall prescribe model forms for instruction, test cards, blanks, record books and other useful blanks or appliances for carrying out the purposes of this act and shall notify the county clerks of each county where all of the aforsaid blanks and supplies can be purchased at the expense of the county.

Section 3. This act shall take effect upon passage and publication.

Approved June 7, 1919.

COPY LAW.

THE INTERNAL SECRETIONS AND THE NERVOUS SYSTEM. By M. Laignel-Lavastine. Authorized translation by Dr. F. T. Robeson, New York. Nervous and Mental Disease Publishing Company, New York and Washington. 1919. Paper. $0.75. net.

This is number 30 of the very excellent nervous and mental disease monograph series edited by Smith Ely Jelliffe, M. D., and William M. White, M. D. Its admission to this group and publication by this journal is sufficient guarantee of its value as a standard and scientific treatise on the subject. In the original French, it is considered a classic and we are indebted to Doctor Robeson for its translation.

The relationship between a proper innervation of the internal organs and health is of such importance as to make this work appeal equally to the neurologist and the general practitioner. It is recommended for general reading by medical men.

The Wisconsin Medical Journal

Volume XVIII MILWAUKEE, AUGUST, 1919 Number 3

ORIGINAL ARTICLES

RECENT EXPERIENCES IN THE TREATMENT OF FRACTURED FEMURS.*

BY CHARLES H. LEMON, M. D.,

MILWAUKEE.

For some years, I have been an advocate of the use of the plaster of Paris spica, for the treatment of all fractures of the pelvis, the neck of the femur, and the shaft of the femur. I have so treated many cases with the aid of an extension apparatus. It is true that I have subsequently operated on a number of these cases after the first week; sometimes operating through the cast, or applying another subsequent to the operation on the bone. When results have been consistently satisfactory by the use of some uniform method of treatment, it is not always wise to change the method, without some very good reason for it. It is true, that if the bones are thoroughly reduced and held in approximation until the plaster has hardened, in the large majority of cases, a result will be obtained that nothing else can compare with; but, there are conditions which make the use of plaster of Paris inefficient and unless this is recognized, over-riding of the fragments will occur.

As the result of this experience, it is my conviction, that in the treatment of fractures of the femur below the trochanters, plaster of Paris should never be used except as an auxiliary to the open reduction of the fracture. Here it finds its legitimate use and for comfort as well as for safety, it cannot be improved upon.

Plaster of Paris is worthless as a fixation dressing unless it can be so applied that the plaster can be moulded on two opposing joints. In the upper part of the thigh, it is impossible to obtain fixation against the tuberosity of the iachium and the crest of the ileum. The fixation to be effective must be absolute; not relative; and after an experience of more than twenty years, in the use of plaster of Paris, I am convinced that an absolute fixation, such as I have indicated as necessary for the reduction of fractures, is impossible below the lesser trochanter of the femur. Plaster of Paris should never be used in the treatment of any fracture unless we can correct our findings by taking a skiagram through the cast after it is applied.

Two inter-trochanteric fractures occurred in this series. I was able to make a diagnosis of these fractures before they were X-Rayed. Both simulated oblique fractures of the upper fourth of the femur, but they had all the characteristics of fracture of the neck. In a series of more than sixty cases of fracture of the neck that I have treated, these two cases are the first of this kind that have come to my notice. I would infer, therefore, that they are rare. The line of fracture in each case extended through the lesser to the greater trochanter and as the muscles contracted, the neck of the bone assumed a horizontal position to the shaft, which left a V-shaped opening at the upper portion of the shaft, the under portion of the neck and shaft being in contact.

It was obvious from the examination of the X-Ray that what was indicated was extension and abduction of the neck and thigh. I put a spica cast on, treating them exactly as I would a fracture of the neck of the femur, making abduction and extension simultaneously as suggested by Whitman. The interesting feature of these two cases is that in eight weeks' time both men walked with the aid of a cane alone, without the slightest limitation of motion at the hip; and at the end of three months neither cane nor crutch was needed. Upon reflexion, the reason for this excellent result is, that the line of fracture passed between two thin layers of compact bone, represented by the covering of the lesser and greater trochanter, but throughout the whole line of fracture nothing but cancelled bone was involved. This healed when approximated as rapidly and as securely as at any other part of the bony skeleton.

The use of the plaster spica finds its limitation, therefore, at this point of fracture, but is without question the most useful, the most comfortable, and the safest dressing that can be applied to any

*Read before the State Medical Society of Wisconsin, Milwaukee, October 2, 1918.

fracture of the neck of the femur or between the trochanters. The patient can be turned over on his face from thirty minutes to an hour a day; and in elderly people this prevents congestion of the lungs, and is a measure of comfort, impossible of description to those who have never experienced it.

Another case in this series was a fracture, both spiral and comminuted, of the upper third of the shaft. The upper portion of the fracture approximated the lowest level of the lesser trochanter. This case looked so very bad that I decided to operate and use a Parham band. The upper line of fracture, while complete, was partially held in position by the untorn periosteum. It was an easy matter, therefore, to put a Parham band on the lower portion of the fracture, and when this was tightly fastened around the bone, there was fairly good stability of the interposed fragment.

The man was placed in a plaster spica cast and the wound healed without complication. At the end of eight weeks the cast was removed and the bone had apparently healed at the site of fracture. The man was kept in bed for two weeks longer, during which time a gradual, but persistent outward bowing of the upper part of the thigh occurred and an X-Ray showed an absolute non-union. The band had served merely to fix the two fragments of bone. In the skiagram, the fracture resembled the letter X. Having obtained the patient's consent, I opened the thigh the second time and found that the periosteum of the lower fragments for two inches either way from the line of fracture, was totally destroyed and there was not the slightest evidence of any callous formation.

There remained to me no choice. I applied a long Lane plate, which straddled the loose portion, and united the two fixed portions of the bone. The leg was again placed in a plaster cast, which remained for six weeks and was then removed. Firm healing of the fragments had taken place. There is an inch of shortening and 50% loss of motion at the knee joint caused by the long immobilization, but the result is otherwise satisfactory.

For the last two years we have been using the Parham band because we thought it was safer than the Lane plate. In our series of nine cases treated with the band, in four of the cases, all of which occurred in the tibia and femur, the band caused a non-union.

At the site of fracture in these cases a collection of serum occurs, which in itself is an element of danger. Comparing my results with those of others, I am of the opinion that the Parham band is wrong in principle. I am convinced, from the experience of Dr. Albee of New York, that a circular wire band placed around the bone is equally dangerous. There are cases recorded, in which a circular wire has amputated the bone. Cases treated by wires which pass through the bone and are tied over one side only, bring about firm approximation, and the circulation of the periosteum is only interfered with on one side of the bone.

Two other cases occurring in this series, were fractures below the great trochanter. Both were transverse, or nearly so, and in both cases the lower fragment was displaced markedly inwards, so that no union could have taken place. In these cases, a wire could not be used for approximation, because the fracture was so high up. In both cases we were forced to use a heavy Lane plate and excellent results followed.

A study of the war surgery shows a decided preference by most American surgeons for the Hodgen splint. In selected cases the Lane plate has been used. The great majority of cases which occur in the war surgery are compound fractures and no one, not even Lane, is justified in the use of the Lane plate in a compound fracture.

During the past year the pendulum has been swinging backwards in favor of the Lane plate. Two years ago, we decided we would never again use the Lane plate; but in this series of cases, two were encountered which made the application of the Lane plate the simplest and most efficient device one could conceive of. In the case above cited, by straddling the piece that was knocked out, the Lane plate again proved the most efficient device.

Another case still under treatment was a fracture at the junction at the middle and lower third of the thigh complicated by a wound of the external aspect of the thigh, and an enormous hematoma. This case could not be subjected to operative treatment and for the first time in fifteen years, I put on a Buck's extension and have been more than satisfied with the result attained thus far. Instead of using lateral and posterior splints, I used a Cabot splint and extension by adhesive plaster and weights. The Cabot splint extended above the site of fracture. In addition to this, an external splint of wood extending from the hip to a point immediately below the foot was also used. At the end of five weeks, the leg is perfectly straight. It measures exactly the same as its

fellow and the external wound is entirely healed and the hematoma completely absorbed.

This man was struck on the leg while operating a crane, by a seven ton clam-shell which was carrying at the time, three tons of coal. The cab that he was riding in was completely demolished and the fracture of the thigh, with only a few minor injuries, was the only serious injury he received.

Another case was that of a boy five years of age, who was run over by an automobile which fractured both thighs at the tilting point. This case was treated by the extension made from over-head support with both legs up in the air and abducted, the body furnishing the counter-weight.

Another case was a five year old child, who received a transverse fracture of the thigh in the middle portion of the thigh, the edges being serrated.

I failed to reduce this under the fluoroscope, but applied a long plaster spica after I had made the best reduction possible under the screen. The X-Rays taken subsequently were very misleading. It appeared that the bones were approximated with slight over-lapping in one plane. Not being satisfied with the result, I recommended open reduction and upon opening the thigh through a fenestrum made in the side of the cast, I was amazed to find one-half inch of over-riding. This convinced me that even a child could not be held in extension by a plaster spica when the thigh was fractured. Holes were drilled through the ends of the bone and a perfect approximation made by phosphor-bronze wire.

Another case was a man run down by a Ford automobile, who received a comminuted fracture of the thigh immediately above and including the knee-joint; a fracture of the skull; and a fracture of the left ulna. The upper fragment of the thigh bone was jammed between the condyles. There was an enormous hematoma as well as a very extensive synovitis of the joint. I tried extension and a plaster spica in this case for two weeks. The extension failed in any way to modify the position of the fragments. The cast was removed and the leg treated on a double inclined plane; at first with Buck's extension and later without it. A firm bony union was obtained by the use of a cuff of leather as suggested a century ago by Sir Astley Cooper. From time to time, as the swelling subsided the cuff was tightened and a firm bony union obtained with an excellent use of the knee joint. This case has one inch of shortening and an excellent functional result, but the anatomy as illustrated by the X-Ray is far from ideal. Under anaesthesia, the position of these fragments could in no way be modified, but an operation in this case could not be considered.

Another case resulting from a fall from a second-story window shows another rare fracture. The line of fracture extends from the middle of the articular surface of the knee-joint upwards, outwards, and backwards, and is substantially a fracture of the external condyle involving a section of the shaft in the femur. This case came under observation some three weeks after fracture, and a plaster cast was applied after an effort was made to force the fragment into position. The result attained is satisfactory although there is still a slight elevation of the outer condyle of the knee.

The exclusive use of a particular device for the treatment of fractures, extended experience will show, is not an altogether safe procedure. There are limitations to the use of any device. It is well to become proficient in the use of one device or method of technic. For about twenty years, I have used plaster of Paris in almost all fractures that have come under my care, and I am strongly prejudiced in favor of its use. The experience of the past six months, however, has demonstrated to me the fact that plaster of Paris is at times unsafe and unreliable in the treatment of fractures of the thigh, between the trochanters, and the knee joint. Above the trochanters, with the leg in marked abduction, it is the only treatment for recent fractures.

Mr. Lane, with his large experience, was unable to do anything for fractures of the neck of the femur. Obviously a plate could not be used within the capsule of the hip joint. The extensive infections that have followed the use of the Lane plate during the past eight years has properly brought its general use into disrepute; but this series of cases has conclusively shown that even the Lane plate has an application and that its use under strict aseptic technic can accomplish results impossible of attainment by any other device. The Martin-Parham band has many advocates. From the viewpoint of mechanics, it is an ideal device. From the theoretical viewpoint, confirmed by recent experience, it is a dangerous device, because when properly applied, it completely interferes with the circulation of the periosteum of the bone, and causes absorption of the compact tissue of the bone to a very definite degree. A series of cases may be entirely successful with its use, but disaster is certain to follow its extended

use. A circular constriction of the bone is absolutely wrong in theory.

An enormous experience will be gained by the surgeons of the base hospitals in the treatment of fractures. Experience may show that the Hodgson splint and Buck's extension in all fractures of the leg and thigh are the most useful in the treatment of simple, as well as compound fractures. Comparatively few men learn how to properly apply plaster of Paris in the treatment of fractures. I predict therefore, that plaster of Paris will be little used as compared with Buck's extension.

The question of transport is a serious one for the army surgeon, as cases which require more than two months' time for repair will be sent home from the battle front. It is safe to predict that a large percentage of these cases will be treated by plaster of Paris casts and a large experience in their use will thus be obtained.

Like a "Jack of all trades," I have tried every new device that has been suggested and have been forced to discard most of them with an increasing experience. The absolutely ideal treatment of fractures is that suggested by Dr. Albee; to use transplants in their treatment, but the ideal is not always attainable.

Each of us should endeavor to follow some one line of treatment for the larger percentage of our cases, because in this way only can a technic approaching the ideal be obtained. It is well to know and be more or less familiar with the use of many devices.

Much valuable time is frequently lost in the open treatment of fractures by attempts to use some mechanical appliance which is wholly inadequate, rather than to shift to the use of another which more mechanically meets the requirements of the case.

The simplest device for the treatment of fractures of the thigh without exception is Buck's extension intelligently applied. Those without an extended experience who must treat these cases, will find in its use the greatest safety for the patient.

The leg can be measured daily and weights shifted to meet the requirements of the case. In the larger centers of population with good hospital facilities, it will be less used than other methods. There are conditions however, which we call complications, which inhibit the use of any well established procedure and the indication of the particular case must be met by the skill and experience of the surgeon who is treating it. The thirteen fractures we have been considering were all simple fractures, but in the treatment of them a wide diversity of practice has been noted.

DISCUSSION.

Dr. W. C. F. Witte, Milwaukee: I have known Dr. Lemon a great many years. I think I was with him when he first devised that splendid extension apparatus which he mentioned in his paper. I have used it constantly and received a great deal of enthusiasm from him in the use of the apparatus and in the plaster Paris bandages. I have had some considerable experience in the line of infirmity in the Milwukee County Hospital where we get I think as severe fractures as there are anywhere to be had, and I found some cases in which I could not hold the fractures. I had an X-Ray taken of the fracture before a reduction was made and then I selected some method of procedure suggested by the X-Ray. I found in the use of the plaster Paris bandages that you hold the limb best in position when you put the limb at an angle to the body; the greater the angle is the more firmly will the plaster hold the fragments, but as you know if there is a fracture in the knee joint it pulls it down and we have to resort to an open operation for that purpose. And in this open operation I have used the Parham band which the doctor spoke about, ten times altogether. I have put the band on the humerus, I have put it on the femur and I put them on the tibia. Up to the present time I haven't got a single failure; I have not removed any of the bands; the cases have all been discharged and if any trouble has arisen I am not aware of it. I had one case—a fracture of the femur—the result of an automobile accident, in which there was a fractured knuckle right out of the center of the femur; the lower fragment was oblique and the upper was transverse. I put a band on the wired fracture and I got union where the wire was. So that whereas I believe that it is the complication of the band, it requires some skill. I have seen bands put on that were too loose and did not hold the fragments, and my belief is that those cases in which they had had disturbance barring the possibility of some infection, that if they put the band on tight, but as far as I am personally concerned I have had very good results in the use of this mechanical band.

Dr. H. T. Kristjanson, Milwaukee. I am very much interested in one feature of this subject, namely, the use of foreign substances placed about fractured bones. Should the bands about the fragments remain in the tissues or be removed after they have served their purpose as splints? If, however, they produce no complications, such as swelling, pain, etc., I presume they could be left in place at Dr. Witte has advocated. I believe that any foreign substances such as a metal band ought to be removed as soon as there is sufficient healing of the bone. In most cases they are put on quite tight so that they interfere with the circulation and consequently with proper healing of the bone.

If we follow the cases where Martin's bands have been placed about fractured bones, for an extended period,

practically all of them show more or less local complications.

Dr. Joseph F. Smith, Wausau: I haven't had any personal experience with the application of the Parham band, but I have had the unfortunate experience of having to remove one or two of them, and I want to suggest that that is one of the most difficult things I ever undertook to do. In this particular case the man had had the band applied which apparently resulted in union, but later on retention of the band produced necrosis of the bone, and it was necessary to remove it. At the time of the removal the bone had covered over the band all the way around and the attempt to remove the band with a bridge of bone covered in a complete circle is an extremely difficult and embarrassing situation.

Dr. B. H. Oberembt, Milwaukee: I used a Parham band for an oblique fracture of the tibia on a laboring man. The fracture promptly repaired and the patient returned to work. After he had been working for more than a year he consulted me for acute swelling of the leg and considerable pain. I had an R-Ray made which showed a well marked osteo porosis due to the band. I removed this band and found a great deal of trouble in getting it out such as Dr. Smith just spoke of. I am convinced that all foreign bodies used for the retention of fractures should be removed as soon as union has taken place.

As to fracture of the femur except the neck I have not used a plaster of Paris splint for several years. I believe as Dr. Lemon stated that most of the extensions are insufficient and not constant. If we have enough weight on our extension to counterbalance the action of the muscles of the thigh, the bone fragments naturally fall into position and remain so practically without any lateral sprints. Bony union will be re-established much sooner than if a cast had been applied so that a patient may be back to work five or six weeks earlier.

I have found the Hay Grove splint very useful. Where you have a long distel fragment, adhesive plaster can be used to attach the counterweight to, if, however, the lower fragment is short I prefer to use the Steinman nail.

Dr. Wilson Cunningham, Platteville: The use of the cast is a commendable form of treatment when applicable for the case. With the use of the cast when applicable for the case, one is able to apply good support and obtain the proper contour of the fractured limb. In most cases, I think one can apply extension when needed and at the same time use the cast almost as well as when not using the cast. To apply extension and at the same time use the cast, in case of fracture of the leg, I usually place the leg in a Hodgen's splint for the extension. The adhesive straps are applied first, the cast is then applied; and the limb with or without the cast on, is placed in the Hodgen's extension. The patient can then be moved about in bed with great convenience to both the patient and the nurse. There is both extension and support.

For mechanical support I prefer, in open operation, to use either autogenous bone or ox bone in preference to non-absorbable plates made of ox bone. After properly preparing the field of operation and cutting down upon the fragments, reduction is accomplished, and the ends of the fragments denuded. The ox bone is then placed in position, holes are bored in the bone fragments to correspond to the holes in the bone plate. The holes are then tapped with a tap of the same thread as that of the bone screws. The screws are inserted fairly firm, when the fragments will be found to be held firmly in place. It is not necessary for the plate to be placed under the periosteum. It will be just as well over the periosteum. The fixation will be absolute in either case. The wound is closed, a light dressing is applied, the adhesive straps are applied to the limb, and then if desired a plaster of Paris cast is put on. If the fracture is of the leg or thigh bones, the limb may be placed either after applying the plaster of Paris cast or without the cast in the Hodgen's splint, and thus obtain the desired extension.

In preparing ox bone plates and screws, it is essential to sterilize by boiling and not by use of the pressure sterilizer. To sterilize in the pressure sterilizer rids the bone of all animal matter and thus it becomes very brittle and renders the plates and screws useless. By simply boiling the plates and screws at two or more different times on successive days and keeping them in a dry, sterile container, and then boiling them again at the time of the operation, they will retain their strength and be sterile. Ox bone will absorb, but metal and other non-absorbable plates will not absorb; thus one great advantage in the use of absorbable material. Besides being absorbed the bone plate has another great advantage over metal plates and screws. Metal plates and screws, as you know, become loose in two or three weeks, while the ox bone plates and screws remain firm until they are absorbed. New blood vessels extend through the trabecule of the foreign bone and it becomes incorporated in the surrounding tissue until it is finally absorbed.

Dr. J. M. Dodd, Ashland: I have had an extensive experience in the treatment of fractures and believe that I can add something of value here today in the discussion of this subject. I still believe that it is not possible in many cases to get correct approximation of fractured bones without open operation, and I believe that in nearly all operated cases, we must use some means of fixation and for the purpose the Lane plate still holds first place. In these days, when other people are looking at our results with the X-Ray we feel that correct approximation of fragments is essential, though good fractional results are common with some displacement. We can avoid this much easier by the open method than by the old method of external manipulation though the latter has been greatly aided by the X-Ray fluoroscope. I do not believe there is any method of fixation which is practical for every surgeon but the Lane plate or the Parham and Martin bone band. The band has a distinct use in oblique fractures. Oblique fractures of the femur are common and always produce shortening unless held in place by some device applied to the fracture. The band is ideal in most of these cases. All metal or non-absorbable material that is used on a fractured bone should be removed and it should be removed by the man who puts it in. The experience of Dr. Smith is familiar to us all who have done that kind

of work. It is extremely difficult to remove one of these bands a few months after it has been put in place and has become covered with callus. The greatest difficulty is met with in cutting the band. I have found that the ordinary rib shears, used in resection of ribs is the best instrument with which to cut the band. The band should be removed in from six weeks to three months. The Lane plate should also be removed but after a shorter period. Some one has spoken about the area of rarefaction which exists around the bone at the location of the band, as if the band were cutting into the bone. This is noticeable in skiagraphs of the band in situ, and indicates that the band should be removed.

CHAIRMAN: I have treated a number of fractures of both bones of the leg near the ankle joint in the past eighteen months. I have used seven or eight bands in these cases with absolutely perfect results as far as mechanical fixations are concerned. The bands were all removed six or seven weeks after they were inserted. An X-Ray plate is made immediately after the band is applied. After six or seven weeks an X-Ray picture is made and if there is a sufficient amount of callus the band is removed through a small incision. I can say it is sometimes very difficult to get the band out. The patients have all healed, both primary and secondary operation by primary union. A new cast is applied after healing from the second operation and the case is dismissed. I intend to continue that practice and my colleagues will not have the opportunity later on of taking out any hardware that I have placed. I am very glad that we had Dr. Lemon's discussion on this paper. It seems to be a subject which we never can get through with. The doctor will close the discussion.

DR. CHARLES H. LEMON, Milwaukee. I put a band on a boy about two years ago and after it was on and the wound closed I regretted that I used it because I felt that some day that boy is going to have trouble. I was very glad to hear Dr. Smith discuss this subject and say that a firm amount of bone will grow around this band. Possibly this boy will not have to have it removed; but from the experience we have had and the large amount of callus that has been formed there is evidence to me that a foreign band is a device that should not be used; and, while I believe it is of value and with the views given here this morning, I might be persuaded to use it myself again; if a band is put on. I believe it should be removed by the man that put it on, and that it should be removed before the case is discharged by the surgeon who did the work.

THE WOMEN'S CONTRIBUTIONS.

Surgical dressings to the number of 300,996,071 and valued at $13,922,292 have been turned out by the volteer women workers in Red Cross Chapters in the United States during the eighteen months preceding January, 1919. They also produced 29,422,390 hospital garments and supplies, valued at $26,818,943. The total value of the work of the 8,000,000 women volunteers is placed at $81,449,997.

FOOD FACTS AND FANCIES.*

BY H. P. GREELEY, M. D.,

MADISON.

Now that the winning of the war demands the utmost saving of food the imperative necessity of knowing something about food values has come home to the people. Greater and greater demands are being made upon the Medical profession to help in the education of the people. We are the interpreters of the government regulations, the go-between whose function and duty it is to see that the civil population do not suffer from undernutrition or malnutrition because of ignorance in the choice of food or its handling.

Before the war, scientific students of nutrition had labored for years to interest the profession at large in the importance of this subject. But little progress had been made. Now that the need arises because of the call of the government and the cry of the people, a real interest is being manifested.

Even though the stringency of food conservation should pass away tomorrow, the lessons which we have learned and are learning should not be forgotten, and the interest in the subject of nutrition should not lag.

Tradition and practice in the art of medicine in relation to dietetics must bow to the superior knowledge of scientific fact. Facts, the knowledge of which we owe largely to the development of scientific animal husbandry. Too long has the feeding of people both in health and disease, been a matter of pure empiricism, based upon a conglomeration of contradictory fads and fancies. Insidiously, customs of eating develop among all peoples and a tradition has attributed the development of these habits to the primordial instinct of man, an instinct which is fool proof. Among primitive races living under natural conditions there is no doubt that such habits of eating are in the main wise and good. The most peculiar and bizarre tastes of primitive races in the light of modern knowledge take on a new significance. It might be interesting to note some of these in passing.

The Eskimo considers the half digested contents of reindeer stomachs a delicacy. The diet of the Eskimo is of course very poor in all green things. They are practically carnivorous and so half di-

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*Read before the State Medical Society of Wisconsin, Milwaukee, October 3, 1918.

gested lichens furnish them the vitamines without which they would suffer.

The Rumanian peasant lives upon a diet in which maize forms practically the only cereal. Maize is deficient as a dietary staple in that its proteins do not contain one element, trytophan, a vital necessity for growth. But they have learned to make a fermented soup which supplies this element.

In many parts of the country you will see Italians making tomato paste which they use daily throughout the winter with their spaghetti. It supplies most important vitamines and salts which they would not get otherwise in winter here in this country, and which I believe are removed from the macaroni in its manufacture under modern methods.

The study of diets of peoples who have been uncontaminated by modern civilization and who have kept their own habits of eating, is most interesting from this point of view. They have learned through ages of experimentation or by chance, what is best suited to them and their diets are often extraordinarily well-balanced. It is only when civilization strikes these people that they get into trouble. When the Filipino began to get polished rice, Beri Beri became common. When the West Indian negroes are brought to New York they all get rickets, because they are suddenly deprived of all their natural foodstuffs—tropical fruits and vegetables. They do not get them because of all races they are the most adaptable, and so immediately adopt foreign customs, and because they cannot afford to eat as they do "at home." Why do not the English thrive in India? Because of the climate alone? Probably not, but because they take their insular habits of eating and drinking with them. It is the rule for the Englishman in India to have his seven course dinners—ale or wine and cocktails, and highballs between meals. The Englishman eats probably 500 more calories than his requirement and needs 500 less than his requirement in England, so that he is eating 1,000 too many.

Failure to follow instinct, either from the baneful influences of civilization or from change to an unnatural environment, often spells disaster. Sudden changes in environment and habit often lead to disaster to the individual as well as to the race. The example of the retired farmer is most striking in the case of an individual. It is a common saying that a farmer who moves to town has not long to live. He cannot stand the strain of quitting active outdoor work and adopting city life. He enjoys his "eats" and that is about all he has left of his old existence. At his time of life injury to his metabolism is not difficult because of the period of overwork and hardship which he has gone through, and so he succumbs generally to one of the degenerative diseases. I believe that if he ate less and exercised more he would live longer. In all these matters it is seen that habit and tradition play a role beside which instinct is unimportant.

The study of the dietary of the untouched races offers opportunity for contrast to the habits and whims which have crept into our effete civilization. The Eskimo who considers the stomach contents of a reindeer a delicacy, the Australian who eats twelve pounds of rotting whale meat at a sitting, the Apache whose meat gravy is fresh buffalo dung and the Asiatic whose salad dressing is castor oil, all have the same kind of digestive apparatus that we do. Our stomachs are turned by the idea of eating raw fish as many races do, yet we can relish raw oysters and consider them a delicacy. Many of *our* customs might turn the stomach of the Eskimo who would rather starve than have his food salted. Arctic explorers, when running short of provisions sometimes husband their supplies by salting them. In that way they keep the Eskimaux from eating them. Habit is thus seen to be as important a factor in diet as instinct.

In Medical practice most illogical fads have held the whole profession in their grip for generations. The commonest one of all perhaps is this: that acid fruits and vegetables should be avoided in "rheumatism." When we stop to think, we know that the only way we can increase the alkalinity of body fluids by diet, is by giving acid fruits and vegetables which, through combination in the system with bases, form alkaline salts. All these acids are organic acids and so give rise in the system to alkaline salts, whereas cereals and proteins and fats give rise to acid bodies. When we further realize that "rheumatism," if it denote any clinical entity, means chronic arthritis or myositis, and is a chronic infection and not a metabolic condition, it is evident that trying to cure it by dieting is like trying to make the tail wag the dog.

Another tradition which still rears its head among us, is that of red meat and white meat. For years we have known that the purin bodies in nitrogenous foods were what irritated the kidneys

and were excreted with difficulty, and that the purin bodies occur in the nuclei of cells. The nuclei in the cells of chicken breast muscle are the same in number and size as those in any flesh, and the redness of meat has nothing to do with the purin content. In the treatment of Diabetes, liver has always been interdicted because of its glycogen content, glycogen being the equivalent of sugar. But the sugar of glycogen content is less than that of any of the green vegetables, which form the backbone of a Diabetic diet, so that small amounts of liver are a real boon to the often monotonous diet of a Diabetic.

Apparently albumen in the urine and egg albumen to many minds are synonymous. The number of people with Bright's disease whom I have seen who have been told to avoid the whites of eggs because they contained albumen, are many. You know that there is more albumen in the yolk of an egg than there is in the white, and an egg is only one cell and has one nucleus, so that it has practically no purin in it and is perhaps when cooked, the best nitrogenous food that a patient can take. Eggs are quite free from irritating salts and supply nitrogen of which a nephritic must have a liberal amount, especially when excreting large amounts of albumen. If he is eliminating fifty grams of albumen a day in his urine, the diet must contain nearly 100 grams to prevent a dangerous loss of nitrogen from the body.

Another old time slogan, "stuff a cold and starve a fever," has died a natural death. The body requires at all times optimum nutrition. Scarcely any condition requires stuffing, and starving is only a temporary expedient to obtain rest. The most notorious example of starvation was in the old-fashioned treatment of typhoid fever. A milk diet is always a starvation diet, for a sick person cannot take enough milk in twenty-four hours to nourish him. A few courageous men like F. C. Shattuck of Boston, have used a liberal diet in typhoid fever successfully for forty years, without convincing the more conservative profession at large, who, however, cannot fail to be convinced by the adequate feeding of typhoid fever patients introduced and elaborately controlled by Dr. Coleman of New York.

I cannot leave the discussion of fads in Medicine without speaking of buttermilk, which has had an enormous vogue in the past few years. Metchnikoff's work cannot be disputed, his conclusions might be. It is always dangerous to base one's opinion regarding the health and longevity of a race on one or more articles of food that they consume, and there is even less reason to think that other people would all receive benefit from incorporating that food into their diet. Frugality environment and exercise are as important as the *kind* of food. The Bulgarians are an active, outdoor people, of frugal habits. *With these accessories,* the Bulgarian bacillus may lengthen their lives. But to expect the bacillus to lengthen or strengthen the lives of sedentary, indoor Americans, even though we shorten their colons in addition, is illogical. We must enlarge our vision and balance the life of an individual as well as his diet. His life must be regulated in regard to exercise and work as well as food.

Water is not always regarded as a food but as an important element in diet it holds a unique place. Following the lead of the European Spas whose reputation for commercialism is only second to Shylock's, many healing springs have been found in this country. Is mineral water a specific, or has it healing properties? Experience would no doubt lead us to say yes. Common sense and scientific inquiry tell us emphatically, no; that the benefit claimed from water is due largely to the rest, climate and change of scene that generally accompany drinking.

In addition to these fads which must be laid at the door of us physicians, there are many vagaries of diet, which we condone when we meet them in a healthy person. I refer to the common individual notions that people have. One will say she cannot drink milk, another that cream always upsets her, another says, "My stomach turns against vegetables." Yet another, "I can't eat acids," or "I can't touch eggs," or "I can't eat two things together,' such as milk and tomatoes, etc., etc., etc. A study of natural dietaries is enough to convince any of us with Dr. Cabot that there is no such thing as an *indigestible mixture* of foods. Indigestion *may* result from mental interference, but not from the juxtaposition in the stomach of two supposed incompatibles. Most of these food idiosyncrasies are merely notions, a few are true allergies due to protein sensitization and these are generally easy to recognize, because of the obvious anaphylactic reaction. Many of the other idiosyncrasies are obviated by saying as Dr. Cabot does, "the reason you cannot take milk is because you don't take it the right way. You try to drink it, but if you took it in a spoon as you do soup, you would experience no difficulty." To quote from Dr. Austin Flint, whose common

sense carried him far ahead of his time in the practice of medicine, "Idiosyncrasies in relation to particular articles of food are far less common than the statements of patients would lead one to suppose. In general, articles which are wholesome to most persons are not unwholesome to any. As a rule when a patient says that he cannot take such and such an article, it is fair to presume that he is deceived. It is one object in treatment of dyspepsia to do away with these fallacious ideas. Some persons seem to be fond of encouraging the notion that their digestive organs are endowed with peculiar susceptibilities, which prevent them from conforming to general rules of diet." May the time come when all children are brought up to eat all wholesome food and not grow up as they do now, with as many finicky notions as there are foods. May the time also come when physicians will no longer, either from laziness or ignorance, tell a mother that her child can't overeat, that a child's instinct is sufficient in guiding its appetite.

In all these things, habit and tradition obviously play a far greater role than instinct and ignorance of the principles of nutrition has prevented the people from correcting their own mistakes. It is up to us physicians as educators, to help instruct the public in these important matters. Civilization has been responsible for many mistakes in our dietary. A conglomerate people living in a country of great extremes of climate, under conditions in which natural forces have no control of the dietary, owing to modern transportation and cold storage, in which food production and refinements have exceeded the demands of the people, is it any wonder that instinct has *not* guided us in the past and that conscious knowledge of food relationships *must* guide us in future? How have we been led astray by civilized life? One important item is the universal craving for a pure white flour, and the manufacturer has responded to the insane demand, by not only removing all the natural substance and husks of the wheat which give it color, but by bleaching the flour as well. The situation became so bad just before the war, that only 65% of the grain was used in flour. The unfortunate results of this practice were not as evident in this country as elsewhere, though *millions* of cases of constipation may have resulted from this practice alone. In poorer countries, such as Newfoundland, where so-called highly milled, patent, white flour was the only cereal food obtained by many, Beri Beri became common. For patent flour lacks not only the healthful bulk necessary to prevent constipation, but also the vitamines necessary for growth and necessary to prevent polyneuritis.

The same thing has happened in the milling of rice and its polishing, and in the milling of corn, where the resulting disease, Pellagra, has become prevalent in the south, since the old grist mills ceased making corn meal.

What has happened in regard to sugar? Even today some experts of nutrition state that the nearer one conforms to the average American diet in which three ounces of sugar are consumed per person per day, the better for his health. And another investigator says that because college girls consume chocolates between meals to the extent of over a pound per girl per day, they actually need that extra nourishment. At the time of the Revolutionary war, about one-fourth of an ounce of sugar in the form of molasses was consumed per person per day, in the American colonies. The year before the present war, one-fourth of a pound a day was used by each person in the United States. Have the nutritional demands of the human body changed so quickly in regard to sugar? The human race existed for thousands of years without any sugar. Is the present consumption of sugar instinctive? Does instinct tell us how much to eat? No, I am sure it does not. Habit controls the situation to a large degree. Primitive man was an instinctive creature who ate to live. Civilized man is a creature of habit who too often lives to eat. If, as some laboratory workers tell us, overeating is impossible and instinct is all sufficient in controlling our choice of food, why must the government carry on an expensive Food Administration? Surely not to make us eat less than instinct teaches us is wise, nor to make us eat foods unfit for human consumption? No, the facts show it a wise measure to prevent waste and overindulgence and increase the nutrition of the masses of the people.

What are the facts in regard to our war diet? One hears daily complaints from the feeble and unpatriotic. With how much truth are these complaints made? Has our war diet produced sickness and how? There are three reasons for all the complaints against our war diet:

First, improper cooking of war recipes, due to inexperience with substitutes. *Result,* indigestion among the feeble and sick. *Cure:* more experience.

Second, improper selection of food due to ignorance, resulting in malnutrition and under-

nutrition among the laboring people. *Cure:* education.

Third, and most important reason for complaint, German propaganda. If Germany could convince the people of this country that their war diet was bad and unnecessary, she would win the war.

I cannot pause, and it is not my purpose to tell you how to choose a balanced diet under war conditions. I can mention briefly a few things we have learned.

I. Bread is the backbone of our diet, but wheat is not the backbone of bread. Prof. Alonzo Taylor said a year ago: "Rice, corn and barley cannot be used satisfactorily in proportions larger than 10%, but wheat may be mixed with 25% of rye flour and it will make a bread scarcely distinguishable from pure wheat bread." Dogmatic statements like these are always dangerous, but not often so quickly disproved. Less than a year after this statement, we are making bread on a 50-50 basis, and if well made it is often indistinguishable from pure wheat bread. Before the war 65% of the wheat went to flour. Now, 75%. England requires 85%, which is advised by the Interallied Council, and would yield a saving of 100,000,000 bushels a year. Misguided persons are claiming that flours made in these proportions to save wheat, are the cause of lots of indigestion, when the real truth is that they are curing many cases of constipation, and if properly made up into bread, are wholesome even for the most delicate constitutions.

II. Don't slaughter cattle. No housewife should buy a pound of meat without buying three quarts of milk. Lusk says that if the feed that was given to beef cattle was fed to milch cattle, and meat rations cut in two, the American people would all be healthier. There is enough protein wasted in skimmed milk that might be made into cottage cheese, to supply one-half the protein needed in the United States, and the casein is more valuable in human economy than meat proteins.

III. The best economy that most of us could perform in food saving, would be to lose ten pounds of flesh. We are beginning to realize with the Insurance companies, that the man is the most fortunate who is ten or fifteen pounds underweight. Weight tables give as the normal an average weight which is always higher after thirty years old than is good for our health, the expectation of life being greater in people ten or fifteen pounds below the average. If we should take this very seriously, would there be any real danger of undermining our health through undereating?

Dr. F. G. Benedict shows conclusively that the civilian war ration is not calculated in any way to lessen the efficiency of the people or jeopardize their health, even though the actual food value of their diet falls 33%. This fact was already known in individual cases by those who treated Diabetes, who, however, did not know the explanation.

Dr. Benedict has shown that after a loss of 12% of weight a maintenance diet of 2,300 calories was sufficient. The most interesting fact in the work was the effect of the loss of nitrogen, the conclusion drawn being that after the loss of 150 grams of surplus nitrogen, the body metabolism was geared to this reduced rate and that nitrogen apparently furnished the stimulus for increased metabolic rate.

In conclusion I want to say, that it is up to us to help the world get back to the nutritional attitude toward food. We eat to live—not live to eat. Every physician should know the elements of a balanced diet and should be able to tell each family under his care how, and how much food to select. He should know what proportion of cereals should be taken, of fats and proteins. He should advise about the bulk of a diet, about salts and vitamines in diet, more important in metropolitan than in rural communities, but important in all.

The United States government and the state university will give you all the help you need in their bulletins. Let us put our shoulders to the wheel and win the war and put a stop to the German propaganda that says the war diet is ruining the health of the people. It is a healthier diet than the people have ever known before. Let us see to it that these lessons are not forgotten after the war is won.

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ACUTE SUPPURATIVE OTITIS MEDIA.*

BY G. H. LAWRENCE, M. D.,

STEVENS POINT.

Acute suppurative otitis media is an acute inflammation of the middle ear with the formation of pus. The middle ear comprehends the tympanic cavity, eustachian tube, the entrance to and the mastoid cells.

A new phase was given to the etiology and pathological anatomy of acute suppurative otitis media by bacteriological examinations during the years of 1885 and 1886. Through the investigations of Zaufel, Moos, Uetter, Frankel, Simmonds, and others, it was established that this ear affection is an infectious disease due to micro-organisms. These investigators, even at that time, were unanimous in their findings, and proclaimed the cause of purulent inflammation of the middle ear as bacteriological in character. These men recognized many forms of micro-organisms which may produce a quite similar pathological effect upon the middle ear.

Infective organisms may remain dormant in the tympanic space for a long time, and may then lose their vitality and be forced out through the eustachian tube. If, however, the action of some external influence, such as cold, trauma, or disease, should disturb the integrity or nourishment of

*Read at the meeting of the Ninth Councilor District Society, Stevens Point, May 16, 1919.

the mucous membrane and thereby reduce its resistance to bacterial influence, it affords a good media for the growth of the organisms; and they may then produce an acute exudative inflammation of the middle ear.

The early belief that the indirect entrance of infections by means of the lymphatic spaces, penetration from the blood stream, entrance through the intact membrani tympani, was very common and quite the usual means of infection, have been discarded as more than exceptional means of entrance. It is now generally accepted that 95% of all infections of the middle ear gain entrance through the eustachian tube.

The predisposing causes are colds, exposure, chronic rhinitis, chronic and acute pharyngitis, adenoids, enlarged or inflamed faucial tonsils, scarlet fever, measles, pneumonia, mumps, diphtheria, small-pox, whooping cough, German measles, and several other types of infectious diseases.

The exciting cause of the disease is the presence of pathological micro-organisms in the middle ear.

In the beginnig of an acute inflammation of the middle ear it is impossible to determine whether the case should be classified as one of a suppurative or as one of a non-suppurative character. If the inflammatory product is composed merely of serum with blood and lymphoid corpuscles, it is customary to speak of such an attack as an acute catarrhal or non-suppurative inflammation of the middle ear. But if the product under consideration quickly assumes a purulent character, and especially if the membrani tympani gives way and allows it to flow out into the external auditory canal for a period of one or more days, it is proper to designate such a case as one of acute suppurative inflammation of the middle ear.

The onset of acute suppurative otitis media is usually sudden and is attended by definite symptoms lasting from a few hours to several days, if let alone, before perforation of the membrani tympani occurs.

It is a general, but not an invariable rule, that the infection at first at least is monobacterial, but that after the membrane is ruptured polybacterial infection too commonly occurs from the canal. Efforts should be made to prevent, if possible this mixed infection.

In smear examinations the order of frequency of the various micro-organisms in the discharge is; the streptococcus, pneumococcus, pyogenic staphylococcus, Friedlander's bacillus, tubercle bacillus, diphtheria bacillus (Klebs-Loeffler), influenza bacillus, diplococcus intracellularis meningitidis, typhoid bacillus. To this list might be added several other types infrequently found. Several years ago, John Funke, in reporting the results of his extensive observations as to the bacteriology of otitis media, says he is strongly inclined toward the belief of a definite grippal otitis, which is primarily due to the influenza bacillus, but becomes quickly associated with, or is replaced by other organisms. Up to this time, even after our recent influenza epidemic, we are unable to add much to the observations of Funke—we still believe that the influenza bacillus is still very infrequently found as the only infective agent in acute suppurative otitis media. Funke also states that the bacillus diphtheriae is more commonly present in otorrhoea than is usually believed, that it may be the initial infective agent, or it may enter with the streptococcus or pneumococcus. He also asserts there is a true pneumo-bacillary otitis, usually acute and quickly converted into a mixed infection. The streptococcal infections are the most grave and the staphlococcal the most liable to become chronic.

Dr. Arthur B. Duel arrives at the following conclusions in reference to the relation of the infectious fevers to acute suppurative otitis media, based upon the study of 6,000 cases of scarlet fever, measles and diphtheria in the Willard Parker Hospital. Acute purulent otitis developed in about 20% of the scarlet fever cases, in about 10% of the diphtheria, and in about 5% of the cases of measles. There were 26 mastoid cases—2 in measles, 2 in scarlet fever and about 20 in combined scarlet fever and diphtheria. Two were complicated with thrombosis of the lateral sinus. In scarlet fever the ear complications usually occurred the second or third week; in diphtheria during acute symptoms; in measles during the acute stage, fever still being present. A combination of two or more infectious diseases increased the danger and mastoiditis was a more frequent sequelae.

CHANNELS OF INVASION.

Anatomically the eustachian tube, tympanum and mastoid cells are more closely related to the nasopharynx than to the internal ear or labyrinth, being an extension from the oro-nasal cavity, an accessory sinus, as a matter of fact, of the nose; and only incidentally related to the ear proper, which is developed from a separate otocyst. The arterial, venus and lymphatic circulation of the

middle ear are closely related to those of the nose and pharynx, and hence, its pathology, at least, has its origin in most cases from a nasal or a pharyngeal disease.

Micro-organisms, as previously suggested, nearly always gain access to the tympanum through the eustachian tube; but there are several other routes by which they may possibly enter. The blood vessels may carry them to the mucous membrane of the tympanic space, where they may be thrown out with the serum and mucous, and thus give rise to inflammation. They sometimes gain access through the tympanic membrane when it is perforated; and rarely they may gain entrance from the cranial cavity through the bony walls, or through the internal auditory canal and labyrinth.

SYMPTOMS.

An attack is ushered in by symptoms that may be grouped under pain, temperature, the appearance of the membrani tympani, the subjective noises and the disturbances of hearing. The pain is sometimes preceded by a feeling of heaviness in the ear, or by a severe headache. It may be piercing, tearing, boring or throbbing in character. We occasionally meet with a case in which all these symptoms are comparatively mild in character. The pain is usually continuous, but becomes less toward morning, and there may be several hours wherein the patient asserts that he has no pain, but that it was very severe during the night.

The temperature at the onset is elevated from 1° to 3° F., and may or may not be preceded by a slight chill or creepy sensation. In the early stages the membrani tympani is scarlet red, ecchymotic and swollen. Later, with an increase of these appearances, there is bulging of the membrane. The osseous portion of the meatus is almost always hyperaemic and frequently infiltrated. The patient sometimes complains of beating or pulsating noises, and autophony is sometimes present. The hearing is affected, and is impaired somewhat in proportion to the amount of congestion and secretion present. With the occurrence of perforation the symptons of pain, temperature, headache and subjective noises are usually abated in uncomplicated cases.

TREATMENT.

An effort should be made to maintain absolute asepsis and free drainage. Asepsis thoroughly maintained means usually the prevention of staphylococcus infection. This should not be allowed to occur if preventable, as staphylococcus infection nearly always means chronicity.

In the early stages of acute suppurative otitis media various measures and applications have been advised, most of which have little or no effect in the way of permanently arresting the disease. During the early stages, owing to its anaesthetic and hygroscopic effect, a 10 or 12% solution of phenol in glycerin, should be dropped into the canal—or perhaps, still better, properly applied on cotton. Personally I like this solution better with 5% of ichthyol added. It is also a valuable treatment after perforation, as it reduces the edema of the mucous membrane, and thus establishes a more rapid flow of blood through the tissues, increasing the resistance of the tissues and assisting in checking the infection.

Incision of the membrane should be done as soon as bulging occurs. The so-called paracentesis is never indicated. We are trying to get away from a simple puncture. It is an obsolete procedure. No harm comes from free incision, as union after free incision often takes place before it is desirable. Even when union does not occur early only a very small amount of scar tissue remains behind. The most suitable place for the incision, as you know, is the posterior inferior quadrant—and happily this is usually the most accessible part. Continuation of pain after incision or perforation of the membrani tympani probably indicates that not only are the superficial and deeper layers of the mucous membrane affected by the inflammation, but also the deeper layers of the periosteum. When there is considerable swelling of the upper posterior part of the auditory canal, indicating the presence of pus beneath the skin of this region, the thrust should be through Shrapnells membrane, and the knife should be so withdrawn that its point will cut through the swollen tissues at the upper posterior portion of the canal to the bone. Previous to making the opening, the external auditory meatus should be cleansed with a 1 to 4,000 or a 1 to 5,000 solution of bichloride of mercury to render the parts sterile.

Anaesthesia of the membrani tympani may be accomplished by carefully applying a small quantity of a solution composed of equal parts of hydrochlorate of cocaine, menthol and phenol.

After free drainage has been secured by incision or has occurred spontaneously, the major part of the pus within the auditory canal should

daily be removed by means of a cotton wrapped probe, and the pus within the tympanum drawn through the opening in the drumhead by suction with Siegle's pneumatic speculum. An aqueous solution of peroxide of hydrogen may also be used on a cotton wrapped probe to break down the secretion. And if the secretion is very thick and tenacious, it may be desirable to use the syringe and an alkaline solution to remove it. I wish to suggest in passing that the pledgelet of cotton wrapped on the probe should never be large enough to fill the auditory meatus snugly—if it is large and fills the canal completely it may quite aptly be compared to a piston and the canal to a cylinder and when inserted may force the infection into parts not yet attacked.

If the discharge is persistent and continues over an unduly long period, I have observed that the injection of two or three drops of a 5% argyrol solution into the tympanum through the opening in the drumhead is very efficient.

A consideration of mastoiditis and mastoidectomy would unduly lengthen this paper, so that I have decided not to discuss that phase of the subject at this time.

There is one phase of this subject that I wish briefly to discuss in order to condemn it. Up to a few years ago it was a very common practice, and in some sections the practice still prevails, in scarlet fever, measles and other infectious diseases where an angina is one of the symptoms of the disease, to swab all throats with silver nitrate, argyrol or other solution. I wish to suggest that I believe this as a regular treatment, especially in scarlet fever and measles, is a pernicious practice. The throat symptoms in these diseases are distressing to the patient; but the sore throat in almost all cases of these affections is more annoying to the patient than it is dangerous. In swabbing these throats we do not reach the superior vault of the pharynx and posterior nares, and these are the parts that harbor the pathologic organisms that are the exciting cause of acute suppurative otitis media. For just a moment permit me to refresh your memories as to certain anatomy and physiological phenomena. The muscles regulating the patency of the pharyngeal orifices of the eustachian tube are the Tensor Veli Palati and the Levator Palati; they also elevate the soft palate and assist in approximating it against the posterior wall of the pharynx in the act of swallowing, coughing, vomiting and gagging. As the superior ends of these muscles are attached to the cartilaginous lip and to the membraneous portion of the tube and the inferior end of the soft palate, it is obvious that a contraction of the muscles will produce a twofold result, namely, the pharyngeal orifice of the eustachian tube is opened and the soft palate is elevated. Now, just what happens when the throat is being swabbed? The soft palate is elevated and brought against the posterior wall of the pharynx, the pharyngeal end of the eustachian tube is opened, and the organisms are forced into the tube by the sharply increased air pressure in the naso-pharynx.

With a proper spraying apparatus—and it is doubtful if such a spray were ever invented—it is within the range of speculation to suggest that it is just possible that a careful preparation of the nose and pharynx with the ideal spray, might make it safe to swab the throat. However, no matter when or for what purpose a spray is employed in the treatment of nares or pharynx, the patient should be advised not to forcibly blow his nose immediately thereafter, there being danger of forcing micro-organisms into the eustachian tube.

In treating scarlet fever and measles cases it might be well to use a good alkaline gargle; and unless there is some special indication, nothing more.

I wish also to state that irrigation of acute cases of otitis, as usually carried out, means mixed infection. The dry treatment, wiping out the canal with a cotton wrapped probe—the treatment about as outlined under "Treatment," will insure the safest and quickest results; except rarely it may be advisable to irrigate the ear carefully under strict aseptic precautions, and that by the attending physician himself.

In selected cases, I have frequently used stock or autogenous vaccines. In my work I have usually selected patients with good vitality but a low resistance to suppurative processes. Theoretically the treatment seems quite ideal, but even in selected cases is not attended with uniformly good results.

There are some important factors we must consider in the administration of vaccines, factors that have a bearing on the success or failure of the treatment. There is a drain upon the vital forces attending the administration of vaccine. If the patient is in a relatively good condition, the use of a vaccine may be followed by good results. If, however, his vital forces are low, the vaccine may reduce them to so much lower level that he can not bridge over the depression gap, and he sinks to a

still lower plane of resistance. I wish to suggest that we would have but little use for vaccine therapy during or after acute otitis if we could see our patients early enough and treat them with sufficient frequency and long enough.

TERMINATIONS AND SEQUELAE.

This phase of the subject is of great importance. It is not the disease so much that is to be feared as its sequelae. The termination and sequelae should engage the thoughtful consideration of the attending physician quite as much as the primary otitis. That there may be a positive cure can not be questioned. But there is a tendency to dismiss our patients too early. A careful analysis should be made of each case. In arriving at conclusions as to whether or not a case is "cured," an opinion should be based upon accurate and intelligent observation. The perforation in the tympanic membrane should be closed, and should have closed after there is no longer discharge from the middle ear. It should be observed that the membrani tympani has lost most of its congested appearance. The external auditory meatus should have assumed nearly its proper contour and color. The naso-pharynx should be inspected, and it should be ascertained whether or not the eustachian tube is patulous. Then, if there are no demonstrable ear lesions, it is safe to pronounce the case as cured.

To substantiate some of the statements I have made in the paper submitted, I wish to refer to 440 cases of acute suppurative otitis media in one of our army hospitals. The care and treatment of these cases was under my direct supervision, and I herewith present a few of the observations made.

The following table will be of interest, as it shows the relation of the 440 cases of acute suppurative otitis media to infectious diseases for a period of 14 months, or from Nov. 1, 1918, to Jan. 1, 1919.

Diseases.	Total No. of cases.	No. of cases in which acute suppurative otitis media occurred as a complication.	Per cent.
Scarlet fever	186	37	19.9
Measles.	557	60	10.7
Pneumonia.	328	29	8.8
Pneumonia of influenza epidemic not included.			
Mumps.	396	11	2.7
Diphtheria.	31	2	6.4
Influenza.		13	...
Before influenza epidemic total No. cases not known.			
Tonsilitis.		19	...
Measles and Mumps ...		4	...
Bad Cold		1	...
Typhoid Fever		1	...
No history		19	...
Vaccination.		1	...
Acute exacerbation of chronic otitis. ...		17	...
Pharyngitis.		3	...
Bronchitis, acute.. ...		1	...
Pulmonary T. B... ...		1	...
Pleurisy, acute fibrinous diaphragmatic.		1	...
Influenza, epidemic	over 3100	220	about 7

The treatment employed was early and free drainage, and the drainage was maintained even if repeated myringectomies were necessary. Acute exudative inflammation in the middle ear requires drainage as urgently and as thoroughly as pus in the peritoneal cavity. We have too long treated ear cases as though the pus would disappear in some occult mysterious way. The keynote to success is early and free drainage, drainage maintained as long as there is aything to drain.

On my arrival in camp there were 59 cases of acute suppurative otitis media that had received but indifferent treatment. In these 59 cases mastoiditis occurred as a complication 22 times, or in over 37.2%. In the next series of 161 cases of acute suppurative otitis media we had but 12 cases of mastoiditis, or about 7.4%. During the epidemic of influenza with a total of 220 cases of acute suppurative otitis media mastoiditis did not occur as a complication. There was no swabbing of throats, and the treatment was much as outlined in this paper.

TO CELEBRATE THE ARMISTICE.

The Red Cross will need more money to meet the greater demand for relief next year. For this reason an appeal for funds will be made next fall to coincide with the anniversary of the armistice, so that the American people can show in a practical manner their thanksgiving for deliverance from the horrors which less fortunate peoples were unable to escape.

"I wish to preach not the Doctrine of ignoble ease, but the Doctrine of Strenuous life, the life of toil and effort, of labor and strife; to preach that highest form of success that comes, not to the man who desires mere ease and peace but to him who does not shrink from danger, hardship, or bitter toil, and who, out of these wins the splendid ultimate triumph."—THEODORE ROOSEVELT.

BUNION, ITS CAUSE AND CURE.*

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KENOSHA.

It gives me pleasure to be privileged to present to you a short paper on the subject of bunion, a subject of which little has been written and less known of its causes and cure. It is believed that we have discovered the absolute cause and when the cause is known the treatment is plain, and nothing short of a surgical operation can ever effect a cure.

In November, 1915, I was called to treat an injured foot for the C. & N. W. Ry. As is my custom in all such cases, I took an X-Ray to see whether or not there were any fractures and was rewarded by being able to say positively that there was a fracture of one of the metatarsals. There was a peculiar condition shown by the X-Ray, one which I had never noticed before, and I also observed the man had a bunion. Soon after this I was called to another railway case of foot injury, and the man had two very large bunions and while X-Raying the injured foot for fracture, I had him place the other foot on the plate and thus was able to compare the two and both showed the peculiarity above spoken of; then I began to wonder if this peculiarity might not be the long looked for cause of bunion. Later I dissected feet which it was necessary to amputate, and bought feet with bunion, and operated and found when this peculiarity was removed the bunion was easily reduced, and came to the conclusion that:

Bunion is a dislocation of the metatarso phalangeal articulation of the great toe. Contrary to previous theories it is not produced by tight, ill-fitting shoes with high heels or pointed toes, but is caused by pressure from within.

Heredity is a great factor in the development of these deformities and almost all cases can be traced to parents or relatives not far remote who were so afflicted, as for instance:

The first case operated by the author's method had three sisters and two brothers with Halux Valgus and their father was a great sufferer from the disease. The next case so operated said, "My father died when I was a little girl, but I remember his feet were like mine." We could enumerate many cases to strengthen this theory but it is an easy matter for any who wish, to investigate for themselves.

Dwight has described a supernumerary bone which occasionally exists between the bases of the first and second metatarsals, and to this bone he has given the name of inter-metatarsem. J. K. Young believes that Dwight's bone is the cause of some cases of Halux Valgus, and its early removal would arrest the condition and relieve all symptoms.

We shall consider only two forms of bunion. First, the ordinary common every day variety which develops on the inner side of the great toe-joint (and by inner and outer, we refer to the foot with reference to the middle line of the body and not the median line of the foot). This form of bunion is where the head of the metatarsal bone is displaced inward. The second form is where the head of the metatarsal bone is displaced upward and you have a bunion on top of the foot. The cause is the same in each case and the only difference is the direction from which the villain attacks the innocent unsuspecting first metatarsal bone.

The onset is so insidious that the patient is unaware of the propaganda that is taking place until the joint is considerably enlarged and the foot swollen and painful; then they commence to wonder what is taking place and invariably the shoe is blamed for an offense of which it is perfectly innocent. Many times the shoes are discarded and new ones take their place and the patient tells the shoe fitter that the old ones were too tight across the ball of the foot and suggest a size wider and this only relieves for a while for the head of the metatarsal keeps spreading and soon a size larger is needed and this process is continued until the feet are unsightly and a chiropodist is consulted, and he again blames the shoe for the trouble and tries all sorts of apparatus for the relief of the deformity and yet it stays, which is not surprising since we know what causes the whole trouble, or at least we think we do. Let us reason a little. Now if bunion is a dislocation of the head of the metatarsal bone inward toward the median line of the body, how could a tight shoe produce it?

We can show you numerous men with awful bunions with almost complete dislocation of the joint, who never wore a tight shoe in their lives; then, too, we can show you lots of people who have

*Read before the Surgical Section, State Medical Society of Wisconsin, Milwaukee, October 2nd, 1918.

worn good tight shoes all their lives and have no signs of bunion.

Some contend high heels are a frequent cause and again we can cite you people who have worn high heels more or less all their lives and have no bunions.

In every case of bunion, large or small, whether they have worn tight-pointed toed shoes, high heels or broad, roomy shoes, we will point out to you the one thing we claim to be the cause—namely, enlarged sesamoids.

We will endeavor to reason out how the bunion on the inner side of the foot develops.

The two sesamoids which develop normally under the head of the first metatarsal bone commence to enlarge and grow downward and outward toward the head of the second metatarsal and the plantar fascia being tough it resists the sesamoids and with each step pushes it upward and inward and causes the head of the metatarsal to give in the way of least resistance, which is upward and inward.

There being no pressure inward on the proximal phalanx of the great toe the strong ligaments hold it firmly and gradually the head of the metatarsal is displaced inward, which turns the great toe outward toward the other toes until in many cases the head is almost completely dislocated from the articular surface of the phalanx and this dislocation corresponds to the size of the sesamoids as you will see from the X-Ray we will pass around.

Bunion on top of the foot is where the sesamoids are enlarged and point straight downward toward the sole of the foot and again the tough plantar fascia resists and forces the sesamoids upward against the head of the metatarsal which is displaced perpendicularly upward and the phalanx held firmly to the tendon is not displaced upward, thus producing a bunion on top of the foot. The cure in both cases is the same, namely, removal of both sesamoids.

If you will review your anatomy you will see that the proximal articular surface of the great toe is more or less circular, and mechanically, it is easy to see, how when the sesamoid acts as a wedge between the heads of the first and second metatarsol, the first is pushed inward and when it presses against the long inner point of the phalanx it naturally causes the great toe to turn outward, toward the other toes, thus producing the condition called halux valgus, or bunion, terms we conside synonymous, for we cannot differentiate between the two terms, except that when the internal pressure becomes so great and forces the head and bursa against the shoe so violently, that is causes a bursitis, and that stage may be called bunion.

By way of preventive surgery, we would advise the removal as soon as the first symptoms of bunion is discovered, which can be readily done by the X-Ray. Then no further development would take place and the patient would be spared the hideous disfigurement of the feet as well as the suffering, which will eventually come if operation is delayed.

To remove the sesamoids make an incision commencing at about the under surface of the head of the metatarsal and one-half to three-fourths of an inch back of the protuberance, and encircle the prominence to a point a short distance in front of the joint and on the phalanx and reflect the flap downward, leaving the bursa intact; then if there are any sharp points or prominences on the inner side of the head reflect the bursa forward on the phalanx and use a sharp chisel and remove these prominences, and after removing the sesamoids replace the bursa over the denuded bone and suture to periosteum and the head of the metatarsal can be easily replaced and the toe will come round into position, then suture outer flap after introducing a small silkworm drain and dress, and it is a good plan to put a small wood splint on inside of foot as well as outside, and bind great toe to it and bandage foot tightly, when the foot is nicely healed and a good snug or even tight shoe will be comfortable to the patient.

THE THREE CROSSES.

The Iron cross is black as death and hard as human hate;
The wooden cross is white and still and whispers us, "Too late;"
But the Red Cross sings of life and love and hearts regenerate.
The iron cross is a boastful cross and marks a war-made slave;
The wooden cross is a dumb, dead cross and guards a shallow grave,
But the Red Cross reaches out its arms to solace and to save.
The iron cross is a Kaiser's cross and narrow is its clan,
The wooden cross is a soldier's cross and mourns its partisan
But the Red Cross is the cross of One who served his fellowman.

EDMOND VANCE COOKE.

(In Paris edition, American Red Cross Bulletin.)

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 504 Goldsmith Building, Milwaukee

Vol. XVIII. August, 1919 No. 2

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REUNION—ALL WAR WORKERS.
PROGRAM—THE VERY BEST.
EXHIBITS—NEVER EXCELLED.
ENTERTAINMENT—UNEQUALED.
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PRELIMINARY PROGRAM.

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THE SECOND MILLION.

EXAMINATIONS at mobilization camps showed that in the second million drafted men, 5.4 per cent had a venereal disease at time of examination upon arrival in camp. This percentage includes only obvious cases of syphilis, gonorrhea and chancroid. Wassermann examinations were not given. Furthermore, this does not include those who had been cured prior to the day of examination or who may have become infected later.

According to the statement of the Surgeon General, venereal diseases constituted the greatest cause of disability in the army. For this condition, civilian communities have been responsible, for virtually all cases of venereal disease were contracted within communities over which civil authorities have control. An awakened public conscience will cause reports from each community to be watched with interest by the nation at large.

Of fifty-seven American cities having a population of 100,000 to 500,000, Milwaukee stood in ninth place with a percentage of 2.55. Of twenty-nine cities of 40,000 to 50,000 population, Racine held first place with a percentage of 1.15, and Superior eleventh place with a percentage of 2.82. Of thirty-five cities of 30,000 to 40,000 population, Wisconsin cities stood as follows: (5), Oshkosh, 1.5%; (8), Madison, 2.33%, and (13), La Crosse, 3.32%.

WORK OF THE MEDICAL CORPS.

THE work of the Medical Corps, U. S. Army, stands out in bold relief as one of the greatest accomplishments in the records of medicine, a record of which every American physician may justly feel proud. A non-combatant branch of the mobilized forces of the nation, it waged the largest, hardest, biggest battle of the war; one, in fact, that is not yet ended, but by which the lives of 195,000 wounded Americans were ransomed. Of this number 182,000 have recovered.

The greatest toll of deaths from disease was taken by pneumonia and influenza during a world wide epidemic. From this cause, 8,000 lives were taken. There were but 1,000 cases of typhoid, fifty of which were fatal. Venereal disease never exceeded four per cent, the lowest figure known for an army in the field. Dysentery, present at one time, was checked before it reached the epidemic stage. Statistics show beyond all dispute that the American army was the healthiest and cleanest army that ever fought.

CANCER DEATH RATE.

COMMENTING on recently published English statistics, Dr. Francis Carter Wood, Director of the George Crocker Special Research Fund of Columbia University, takes occasion again to emphasize how easy it is to be misled in regard to the relative prevalence of cancer in any particular locality unless the age distribution of the population is taken into account. In England and Wales the cancer death rate has shown a decided increase during the war, but this is doubtless due to the fact that that portion of the male population below the age of 45 has been so largely removed to France and Belgium, so that for the time being the older age groups, in which cancer is naturally much more frequent, have unusual predominance in the population left at home. According to the report of the Registrar General of Great Britain cancer mortality during the war greatly increased among males, while among females little or no change was observed. For the three years preceding the war the cancer death rate among men was 91 per 100,000 of population. In 1916 it had risen to 96 per 100,000, while in 1917 it reached 98 per 100,000. Among women the rate for the same period before the war was 99

per 100,000 and in 1916 it had risen only to 101, while in 1917 it dropped back to 100 per 100,000.

As has been frequently pointed out, variations in the cancer death rate due to the dislocation of classes of the population have long been observed in the United States. Vermont has the highest cancer death rate in this country, the figures reaching 109.9 in 1914, while the rate in Utah was only 45.6. According to Dr. Wood, there is not the slightest reason to suppose that cancer is more frequently among people of the same age in Vermont than in a Western state such as Montana where the 1914 cancer death rate was 51.5. The explanation lies in the fact that in the Western states the population is mostly of the pioneer type, whereas in Vermont the present inhabitants are predominantly within the older age groups, the young people having largely emigrated to the industrial centers of other states.

HEALTH A BUSINESS ASSET.

THAT health is a business asset; that sickness, accidents, and unnecessory assistance among employes may seriously cripple production, and that efficiency bears a direct relation to physical well being—these are truths now recognized by progressive business men.

It was not unusual a few years ago to hear of a new business organization seeking a location amid poor sanitary surroundings, merely to take advantage of low freight rates, favorable labor conditions, or a cheap coal supply. Experience, however, has taught that any saving in freight rates or coal may be quickly absorbed through the losses entailed by the illness of employes. The man of the street has had to be shown that the good health of the community in which his business is located is an asset that can be turned into dollars and cents, and now where this truth is recognized, good health will be the rule and not the exception.

A MODERN CAESAR.

A Red Cross man in the recreation room of one of the Debarkation Hospitals offered to send a telegram home for a returning wounded soldier. This is what the boy dictated: "DEBARKED, DELOUSED, DELIGHTED. JIM."

THE JOURNAL CLINIC

Edited by
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and
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(Address all communications direct to the editors)

FROM THE CLINIC OF THE MILWAUKEE COUNTY HOSPITAL

L. M. WARFIELD, M. D.

CASE I. A white woman about 75 years old was brought to the hospital from the Hospital for Insane with a diagnosis of abdominal tumor. It was impossible to obtain any history from her. She was a well nourished woman with good color. She seemed in no pain. Physical examination of the heart, arteries, lungs and kidneys was negative. In the left iliac fossa was a visible swelling about the size of a grape fruit. On palpation this mass was firm, irregular, somewhat doughy in consistency and became harder at intervals. On close inspection waves of peristalsis were seen in the left flank. There was complaint of slight pain on pressure over the tumor. Rectal examination revealed an empty, smooth rectum. At the extreme tip of the examining finger was a mass which gave the impression that the pressure of the tumor occluded the bowel. An oil enema was given. There was no immediate result. About twenty-four hours later the patient had a huge stool which consisted of quite firm masses of feces. The tumor was no longer present.

DISCUSSION.

This case illustrates a condition which must ever be kept in mind, namely, accumulation of feces in the sigmoid flexure. Tumors in the iliac fossa are not frequent. The only structure there is the sigmoid flexure. Carcinomata may occur there but the tumor is rarely of great size, there is more pain and there is hemorrhage from the bowel. Occasionally there is acute inflammation of an appendix epiploica with abscess formation producing the disease sometimes called left sided appendicitis. However, in the absence of inflammatory signs, all large boggy or even hard irregular tumors occurring in that situation must be considered to be fecal accumulations until proved to be something else. It is not usual to find an empty rectum as was found in this case. As a rule the rectum is full of impacted feces and there may even be diarrheic stools with partial incontinuence of the anal sphincter. Impacted feces in the lower bowel is a condition often found among the insane and is not so very uncommon in children. It may be necessary to remove the fecal matter with the finger.

CASE II. A negro man aged 31 was admitted to the Hospital on May 20, 1919, complaining of cough, shortness of breath and general weakness. There is nothing of importance in his family or past history bearing on his present illness. He became ill about a month before admission with symptoms suggesting influenza. This lasted about two weeks, after which he apparently recovered and was able to work for about three days. He then developed a bad cough, became very weak and very short of breath. There was no pain, no expectoration, no sweats, no constipation. His appetite was not lost. He entered the Hospital with a temperature of 104.6, pulse 124, respirations 24. In the left interscapular region were dullness, tubular breathing, increased voice sounds, crepitant and subscrepitant rales. His heart and abdomen were negative.

The leucocytes were 12,500. In the sputum were streptococci, staphylococci and pneumomocci (type undetermined). He ran a rather typical pneumonia with, however, a very slow lysis so that by June 9, twenty days after admission his temperature was touching normal. Not until June 19, however, was his temperature permanently normal. During the height of his illness he seemed at no time in danger and he had no complaint. On May 25, he said there was buzzing in his ears and he was a little deaf. This deafness progressed until he could scarcely hear shouting. The attending otolaryngologist diagnosed bilateral labyrinthine disease. The leucocytes were then 13,000.

On June 2, his temperature was still around 103° and somewhat irregular. Fluoroscopic examination revealed no fluid in either chest. Both sides of diaphragm expanded freely, but the right was slightly limited. In the upper right chest, near the surface, above the third rib was a dark, fairly circular shadow interpreted as a resolving pneumonia. Corresponding to this shadow, physical examination showed dullness high up in the axilla and beneath the scapula with bronchial breathing and crepitant rales. A week later the shadow seen with the fluoroscope was definitely lighter. His hearing had also improved.

Fluoroscopic examination on July 2, showed perfectly clear lungs with no restriction to the diaphragm excursion. He hears normally, has recovered his weight. The pulse, however, is very unstable.

DISCUSSION.

This case has considerable interest. First, on account of the unusual complicating deafness and second on account of the prolonged convalescence due to delayed resolution with perfect recovery.

While middle ear disease with resulting suppuration is not so unusual, especially in children, deafness due to labyrinthine disease has not been a frequent complication. Personally, this is the only case I ever remember to have seen. There was no pain connected with this, no particular discomfort except that arising from the inability to hear. Recovery was absolutely complete.

Delayed resolution in pneumonia is very common. The irregular pneumonias following influenza have shown a marked tendency to slow resolution. The importance lies in the difficulty of differentiating it on the one hand from empyema of a low grade, and on the other hand, from complicating pulmonary tuberculosis. As a rule in empyema the temperature shows larger daily fluctuations. There are more frequently chills followed by sweats and examination carefully made will reveal the presence of fluid at one base. The most difficult empyemata to differentiate are those in which the pus is between the lobes. Often there is a bronchitis around the collection of pus, and the signs are those of deep consolidation. The leucocyte count and the situation of the area of involvement are aids. Puncture has revealed pus between the upper and lower lobes under the scapular region. Fluoroscopy or Radiography will settle the diagnosis.

If one remembers that isolated lesions in the lower half of the lungs rarely are due to tuberculosis and that isolated lesions at the apices are most often due to tuberculosis, he will diminish his percentage of errors in diagnosis and be able to give a more correct prognosis. The longest delayed resolution I have seen was twelve weeks. During this period after apparent recovery from pneumonia, rales, bronchial breathing and dullness persisted over a small area at the lower angle of one scapula. All adventitious sounds finally disappeared.

Influenza pneumonia is still with us and it is well to remember that the resolution of the patches in the interscapular regions and towards the base is very often delayed for several weeks. The prognosis is usually good for complete recovery but while signs are present it is advisable to keep the patient quiet and under observation.

The only safe plan to follow is to make frequent careful examinations on the bare skin.

CASE III. On May 4, 1918, there was admitted to the Milwaukee County Hospital a young single woman aged 25 years who was a supervisor of nurse maids at a Home for Dependent Children. Her complaint was of intense pain in the right lower part of the abdomen which was intensified on pressure.

There is nothing of importance in the family history. In her past history she said that although her bowels were regular and she had no piles she had had blood in the stools for a short time. There was no pain. Menses were irregular and often accompanied by nosebleed. A week before admission she had had an attack of violent pain in the abdomen with headache, nausea and vomiting lasting five hours. Two days later and again three days later there were other severe attacks.

There was no jaundice or bile in the urine. Examination of heart and lungs was negative. The abdomen was normal in contour, respiratory movements limited on the right half. The whole right rectus abdominis was rigid with great pain and tenderness over McBurney's point. There was some slight tenderness over the gall bladder. (The history fails to note jaundice, leucocytosis or a diagnosis.)

Operation evidently for diagnosis. Incision was made in right rectus muscle at level of umbilicus. The appendix was found normal and was not removed. The gall bladder was somewhat enlarged, inflamed, with stone impacted in the cystic duct. Stone was removed. Gall bladder drained. (Surgeon, Dr. E. Quick.)

She had a poor convalescence, and soon after the drainage wound closed she again complained of severe pain. This became so severe and persistent that some complicating stomach trouble or possible bowel obstruction was considered. A fluoroscopic examination by Dr. Kristjanson showed no apparent lesion. The cap was not so well defined as usual but did not seem to be really abnormal. She was again operated upon by Dr. Quick on July 12, 1918. A long right rectus incision was made and the former scar dissected out. The omentum, stomach, transverse colon and fundus of gall bladder were adherent together and to the parietal peritoneum. Adhesions were loosened and the gall bladder freed. The abdomen was then closed tightly. She recovered from this operation somewhat better and left the hospital August 23, but against advice.

She was readmitted May 1, 1919, complaining of abdominal pain, headache, backache, vomiting, jaundice and general weakness due to weak back since February 26, 1919. Since her discharge from Hospital, August 23, 1918, she has worked continuously as supervisor of nurse maids until February 26, 1919. Her menstrual periods were regular but she had painful hemorrhoids and blood in stools off and on in spite of the fact that her stools were always soft, 2—4 daily. The rectum projects outward when she goes to stool.

On February 26, 1919, she was suddenly seized with severe frontal headache, exhausting backache, worse in the morning and upon lifting. There was constant boring pain in the pit of the stomach and tight feeling around waist. The pain was greater after a heavy meal. It was accompanied by difficult breathing. Vomiting about 10 or 11 p. m. often caused relief. She later had high temperature and jaundice. In March she had a second attack of pain, fever and jaundice. This too passed off but stomach distress is so great that she comes to hospital for another operation. When seen by me there was no jaundice. She was a well nourished woman with no definite physical findings except pain on pressure without spasm or rigidity just below the ensiform. She would cry at the slightest pressure and wanted an operation at once. The leucocytes were 21,000. There was no fever and a normal pulse. On May 7, I made the note: There are no external hemorrhoids visible and no internal ones palpable. There is great tenderness over the lower sternum and xyphoid. There is no tenderness of either rectus. Great tenderness over the aorta. She complains of the worst pain around the umbilicus and in epigastrium. There is no tenderness and no pain over the gall bladder. All reflexes are much exaggerated.

X-Ray examination of the gastro-intestinal tract with barium showed no lesion. She complained of blood in the stools so on May 8 and 10 specimens were examined. No blood microscopically or chemically was found.

However, on May 18th, there was a stool containing liquid blood, bright red in color. In twenty-four hours she had eight bloody stools. On the 21st examination by proctoscope revealed a normal rectal mucosa. No hemorrhoids were seen. She was again given ulcer diet, although no ulcer could be made out, cold packs and sterile water hypodermic injections for her pain. I was extremely loath to advise operation as I could find no real indication. By June 10th she had passed over 45 bloody stools (she said over 60). We could not discover where they came from. The hemoglobin was then 80% (Talquist). Finally I consented to operate to break the adhesions which were undoubtedly present. On June 13, 1919, Dr. Yates opened her for the third time, excising the scar, separating the adhesions and carefully covering the denuded bowel surfaces with omentum and mesentery. There was absolutely no lesion found in the whole gastro-intestinal tract. The appendix was normal. It was removed. She made an uninterrupted recovery. The pain and distress in the epigastrium ceased and there were no more stools with blood. She was discharged July 15, 1919.

DISCUSSION.

There seems no doubt that this woman had gallstone attacks originally with a beginning empyema of the gall bladder. It was wrongly diagnosed appendicitis at the beginning but operation disclosed the mistake and should have righted the condition. The history previous to the second operation was that of adhesions which were found but which were not thoroughly cured at operation. The next history period of jaundice is doubted. She might have had pain and fever but not jaundice. Although she gave the height of her fever in degrees and fractions there was always the lingering doubt that she was feigning on account of that very accuracy of figures and dates. When several examinations of the gastro-intestinal tract including a barium enema all proved absolutely negative she was told that we could see no reason for operation. It was then that the bloody stools began. There was no doubt about the blood. It was bright and red and could have come only from near the rectum or anus. Why should it have suddenly ceased when she had her way and was operated upon for the third time? Bed pans I saw contained 30-70 c.c. of blood. From where did this blood come? Did she deliberately tear some rectal vessels? None were seen on proctoscopic examination. The most careful search at opera-

tion failed to locate a bleeding point throughout the whole gastro-intestinal tract. She had made up her mind to be operated upon. When she was told that we could not find any indications for operation the abdomen became so tender that one could scarcely touch it without bringing tears of pain (?) in her eyes. Then with no pathological findings but with her purpose fulfilled all the symptoms and signs disappeared at once. What we should like to know is how she managed to pass so much real blood in the stools. This has not been cleared up as yet. Possibly it may never be. One opinion is that she was a malingerer with hysteria.. She purposely got blood in the stool somehow in order to force us to operate upon her. She accomplished her purpose. She is now well and everybody is happy.

FROM THE CLINIC OF THE UNIVERSITY OF WISCONSIN.

Citation of the following cases is for the purpose primarily of indicating the clinical importance of the interpretation of cardiac arrythmias. It is of importance in any case not only to determine the nature of the arrythmia when present, but to gain an estimate of its importance as a factor in the case by its association with other symptoms and signs of cardiac disease.

CASE I. A married woman, age 40, was admitted to the hospital on September 22, complaining of shortness of breath, pain in the chest and cough. The symptoms began five days previous to admission. The family history was negative. There was a history of rheumatism about five years previously, which from the description was evidently of the acute febrile type, and since then there have been recurrent attacks of rheumatism and tonsillitis. She had passed through several attacks similar to the present one, although not so severe. Her occupation as scrubwoman entailed hard physical work, and for the last six months periods of shortness of breath and cough have become more frequent and have interfered with her steady employment.

On physical examination there is moderate edema of the ankles and legs. Numerous medium and fine dry crackling rales were heard posteriorly at the base of the right lung. The pulse is exceedingly irregular in both force and rhythm, and the irregularity shows no grouping or arrangement. Every pulse beat seems to be of a different magnitude and groups of rapid beats occur spaced by pauses of varying length. On auscultation of the heart, it is found that a number of heart beats can be heard which cannot be felt at the wrist, abortive ventricular systoles in which the pressure in the ventricle does not rise sufficiently to open the semilunar valves. Accurate arterial pressure cannot be read due to the great variations present from moment to moment. The venous pressure as estimated by the Gartner method on a superficial vein of the hand was about 20 centimeters of water. The heart is enlarged as determined by percussion, the area of deep cardiac dullness extending 2½ centimeters to the left of the left midclavicular line and 2 centimeters to the right of the right sternal margin. At times a systolic murmur can be heard, loudest over the body of the heart, transmitted to the axilla and present also over the aortic area. Frequently the murmur is obscured by the rapidly recurring ventricular contractions. The liver was enlarged, extending about five centimeters below the costal margin. The edge was smooth. There was no evidence of fluid in the abdomen. The urine was below normal in amount and showed a trace of albumen. Blood examination was practically negative. The patient was put to bed in the semi-erect position with head board and kept as completely at rest as possible. She was not allowed to move in bed and change of position when necessary was carried out by an attendant. A strict liquid diet was adhered to and tincture of digitalis administered in maximum doses until a full therapeutic effect was obtained. As the dyspnoea lessened, the head board was lowered until the prone position was assumed and maintained. The symptoms readily subsided under this treatment and within five days the dyspnoea, cough, pain and edema had practically disappeared. The venous pressure had fallen to about 12 centimeters of water. The lung was clear, the pulse still markedly irregular but slower, and auscultation revealed fewer abortive ventricular beats. The cardiac dilatation diminished and dullness could no longer be elicited to the right of the sternum. The liver enlargement was reduced. Ten days later the patient left the hospital with disappearance of all symptoms except slight shortness of breath on walking. The lungs were clear, liver of normal size, and pulse irregular.

Numerous electrocardiograms made during her stay in the hospital showed a condition of auricular fibrillation.

About three months later an attack similar to the one described began. She remained at home and for a period of time continued to carry out household duties. She was not seen during this attack until the day preceding her death when she was in a semi-comatose state. At this time marked dyspnoea was associated with Cheyne-Stokes respiration. Strophanthin was used hypodermically and reduced the exceedingly rapid irregular ventricular rate, but did not prevent the fatal outcome. Autopsy revealed cardiac hypertrophy associated with insufficiency of the mitral valve and areas of acute and chronic myocardial change. The lungs, liver and abdominal organs were markedly congested and a general anasarca present.

DISCUSSION.

This case is the all too common one of severe valvular disease and myocarditis with recurrent attacks of broken compensation. The periods of decompensation which came under our observation were associated with fibrillation of the auricles and the resulting rapid and extremely irregular ven-

tricle, with an even greater irregularity (due to abortive ventricular beats) of the pulse, the condition known to the older clinicians under the term "Pulsus irregularis perpetuus." This condition is readily recognized without an electrocardiogram. The occurrence of a rapid pulse irregular in both the size of beats and in the rhythm, in which there is "no regularity about the irregularity," and finally in which abortive ventricular beats occur as determined by simultaneous auscultation of the heart and arterial palpation, is sufficient to separate this condition from practically all other types of cardiac irregularity. The importance of its recognition lies in the added seriousness of the prognosis in broken compensaton and in the indication for more intensive digitalis therapy. In these cases particularly full digitalization is important. By the depressing effect on auriculo-ventricular conductivity as well as the improvement in the tone and contraction of the ventricular muscle, the ventricle is protected from the bombardment of impulses from the auricles, its rate is slowed, its filling during diastole facilitated, and cardiac output increased. This effect, with rest as nearly absolute as possible, is sufficient in most cases to rapidly restore compensation with a disappearance of severe symptoms. It is important to remember, however, that this treatment does not tend to stop the fibrillating auricle; it simply protects the ventricle from its effects and puts this organ in better position to survive the handicap. Auricular fibrillation, when once established in valvular disease is usually permanent and resists all efforts of therapy. Moderate digitalization is indicated in these cases even after compensation is fairly well established, as a more or less permanent means of ventricular protection. The condition of auricular fibrillation tends to add to the handicap already present from the damaged valve by still further reducing the pumping efficiency of the heart. The reserve power during the stage of compensation is thereupon lessened and the danger of decompensation greater than when the rate and type of beat is normal. Compensated cardiac cases with auricular fibrillation require therefore particular care during the periods of compensation. After several periods of broken compensation the reserve power usually becomes so small that in order to retain compensation the patient may have to be kept at rest for most or all of the time and continuous invalidism results with the heart constantly on the border line between compensation and decompensation. Since reliable statistics have shown that auricular fibrillation or flutter occurs in at least one-third of all fatal cases of heart disease, the importance of its recognition and valuation is evident.

Case II. A physician, age 34, consulted the Medical Clinic in December, 1916, because of rapid irregular heart action. The past history was unimportant with the exception of the development of the present condition, which followed an attack of tonsillitis and acute nasal infection a few months previously. The patient had always led an active life, and had taken part in athletics to a moderate degree while in college. At the time of his visit he was in good physical condition, although tiring rather easily and showing slight dyspnoea after moderate exercise. There were no other symptoms.

On examination nothing abnormal was found except the extremely irregular heart. The character of the irregularity suggested auricular flutter and fibrillation and this diagnosis was confirmed by electrocardiograms. At times auricular flutter with auricular rates around three hundred per minute was present, and at other times the auricles were in fibrillation. Periods of each were frequently obtained in the same electrocardiographic record. X-Ray determination of the cardiac size by the Bardeen method showed slight enlargement; an area of 134.4 square centimeters as compared with the normal of 117. Various special examinations were made without finding any other change from the normal. The Wassermann test was negative. Since there were few or no indications of incomplete compensation digitalis therapy did not seem to be indicated, and the patient returned to his work, with advice as to reduction of work, lengthened periods of rest and instructions as to diet and general hygiene. He returned in March, 1917, for a period of hospital observation and an attempt to restore a normal cardiac rhythm by a method of treatment from which some success had been reported by a number of German clinicians, particularly August Hoffman, was made. The more important features of this treatment are absolute rest in bed, the continued application of cold by the use of an ice cap to the precordium and intramuscular administration of camphor. The patient on his return was apparently in normal health and felt somewhat better than at the time of his previous visit. The cardiac condition was the same. An X-Ray determination of cardiac size showed no further development of hypertrophy, in fact it was somewhat less (122.2 square centimeters) than at the time of previous examination. The course of treatment as above indicated had no effect whatever on the cardiac condition. The patient left the hospital in apparently excellent condition and returned to his work. During the following summer he consulted several cardiac specialists in the east and was put on a course of intensive digitalis therapy for a period of several weeks. This treatment was also without apparent results. From this time up to the present the condition has continued without important change. The patient has become gradually accustomed to the unpleasant sensations arising from palpitation and irregular heart action. During the past few years he has continued in his occupa-

tion of practicing surgeon without serious interruption and his health in general has been good. The irregular heart action has continued without interruption up to the present time.

DISCUSSION.

This is the very unusual type of case in which a disturbance of cardiac action, generally recognized as usually of a very serious type, developed unassociated with valvular disease or advanced myocardial degeneration. From the standpoint of clinical pathology it must mean a focus of infection or irritation at some point within the heart or possibly in the extrinsic cardiac nervous system though we are entirely ignorant of the region that is affected. From the standpoint of cardiac dynamics it means a less efficiently acting pump, although the mild hypertrophy necessary to maintain compensation would indicate that this is not as serious as the handicap exerted through valvular incompetency or myocardial change which form the usual basis for compensatory hypertrophy. Prognosis is difficult because of the lack of observations of similar cases, due either to their rare occurrence or lack of recognition. It would seem at least notable that auricular fibrillation, of such unfavorable prognostic significance when developing in the course of an old valvular or myocardial lesion, and frequently the initiating factor in the more or less permanent decompensation in this class of cases, may cause relatively little disturbance in circulatory efficiency when it is present alone. Indeed, it may not be incompatible with a fairly active and healthy life. Treatment in the light of our present knowledge would seem to be restricted to a regime such as one advises in the more favorable and more perfectly compensated valvular defects.

CASE III. A male child, 24 months old, was referred by Dr. H. E. Purcell of Madison on January 26, 1917, because of a cardiac murmur and irregularity of rhythm. The family history is unimportant. The child was delivered by low forceps at full term after normal pregnancy, and appeared normal up to the onset of the present trouble, although no cardiac examination was made previous to this time. The present illness began on January 16, with nasal and tonsillar infection and examination by Dr. Purcell on the third day of the illness revealed the cardiac arrythmia and murmur.

On examination the pulse was somewhat irregular, averaging about 75 per minute, and a soft systolic murmur was heard at the apex, transmitted to the mid-axillary line, but not heard at the base. Electrocardiograms showed increase in auriculo-ventricular conduction time and blocked auricular beats every third or fourth cycle. The temperature was normal. The tonsils were enlarged, particularly the left which was also pitted. Other examinations were negative. There was no indication of congenital heart disease. Examinations on successive days showed an increase in the degree of heart block and an increase in the loudness and transmission of the murmur. Electrocardiograms on January 30 revealed a 2 to 1 auriculo-ventricular block, with a ventricular rate of 62. X-Ray shadowgrams showed enlargement of both ventricles and the left auricle, with a total area of 57 square centimeters, corresponding according to Bardeen's tables to the normal for eight years of age and a body weight of 48 pounds. There was considerable cyanosis of the head and body.

In view of the increase in the degree of block, change in the character and the transmission of the murmur and the cardiac enlargement, it was believed that the pathological process was rapidly extending. Because of the probable association of the tonsillar infection with the condition, tonsillectomy was performed under ether anesthesia on February 2. Following the operation the condition improved steadily. On February 7 cyanosis had completely disappeared. The heart block was less; only every second or third auricular impulse failing to reach the ventricle. The pulse rate was 77. On February 14 electrocardiograms showed a 3 to 2 heart block with a ventricular rate of 82. The extent of the heart block still continued to decrease and by June 2 only every third or fourth beat was blocked. The murmur became soft and distant and its area of propagation was reduced, being confined to the apex and its immediate vicinity. The cardiac size was reduced to 50½ square centimeters.

The child has been in good health since this time and has developed normally and manifests normal activity. At present, July 20, 1919, a soft systolic murmur can be heard only at and in the immediate neighborhood of the apex. The heart is moderately enlarged. The rate of beat is about 57 per minute and is regular in force and rhythm. Elctrocardiograms show a 2 to 1 auriculo-ventricular heart block.

DISCUSSION.

The condition of auriculo-ventricular heart block is usually found associated with chronic myocardial disease in adults, especially that of syphilitic origin, and after excessive digitalis administration. Cases have also been reported in children in severe acute infections, particularly diphtheria. It reaches its fullest development when the block becomes complete and manifestations of the Stokes Adams syndrome appear.

Whether or not the focus of infection in the tonsils was responsible for the development of the process in the heart which resulted in permanent damage to the mitral valve and to the auriculo-ventricular conductive system, cannot be determined from the history. The symptoms of decompensation that developed during and following the acute illness may have been due to the

strain of illness upon an imperfectly compensated heart. The clinical improvement following tonsillectomy is however suggestive. At the present time the compensation for each of the two evident cardiac injuries is complete. The prognosis, however, is regarded as more unfavorable than would be for a compensated uncomplicated mitral case of the same age. The gravity of prognosis depends on the additional damage evident upon the conductive system and the increased handicap resulting from the slow ventricular rate, associated with the condition of partial auriculo-ventricular heart block.

WAR NOTES

Lieutenant E. P. Hayes has returned to Eau Claire and plans to take up practice there.

Friends of former mayor Gerhard A. Bading, M. D., gave him a welcome home at a banquet July fourteenth at the Athletic Club, Milwaukee. Dr. Bading, who has recently returned from China and the Philippines, was in the service two years and was recently discharged with the rank of captain.

Captain J. E. McGinnis of Green Bay left July 17th for Fort Riley, Kansas, where he will be attached to the medical staff of the Base Hospital. Captain McGinnis recently returned from overseas where he was wounded in service and has been at his home in Green Bay convalescing from his injuries.

Dr. R. L. Kenney, formerly resident physician at South View Hospital, has returned from war service and resumed his position at the hospital, August first.

Captain R. C. Montgomery returned to his home in Madison, July 16. Dr. Montgomery served with Base Hospital No. 66 until January 10, 1919, after which he joined Provisional Hospital No. 1.

Major J. R. Longley arrived at his home in Fond du Lac July 16th to spend a fifteen day leave after which he expected to go to Camp Grant to receive his discharge from the service.

Captain W. W. Cowen of Stevens Point has been appointed a major in the medical corps. Major Cowen is stationed at Brownville, Texas, where he is serving with the 16th Cavalry.

Major Eugene Gates has returned to his home at Two Rivers after an absence of over two years in the service.

Captain H. A. Keenan of Stoughton, who recently arrived in New York from France, spent a short furlough at his home before leaving for Camp Grant where he expected to be discharged from service.

Dr. F. H. Russell, formerly a captain in the medical corps, U. S. Army, has returned to Neenah and resumed his former practice.

Captain L. N. Fields, who has just returned from the service, has been engaged as health officer for Beloit. He succeeds Dr. W. A. Holt who resigned to go to the Pacific coast.

Dr. A. Axley has returned from service in Italy and expects to continue his studies at a medical college soon.

Dr. E. P. Hayes, former captain in the medical corps, has returned to Eau Claire and is again associated with Dr. E. L. Mason.

Major Gurney Taylor, who has recently been attached to the surgeon general's office, division of reconstruction, has returned to Milwaukee and resumed his practice in the Wells Building.

Lieut. Colonel F. F. Bowman has returned to Madison. During the war, Dr. Bowman was in army medical work in England, being transferred to a hospital in France after the armistice was signed.

Dr. H. L. Garner, who recently returned from overseas, has resumed his practice in Rhinelander.

Dr. L. B. Rowe of Brodhead has received his discharge from service and has resumed his former practice.

Major J. R. Eastman, who has been overseas for the past ten months, has been home on a leave of absence. He expects to be mustered out at Camp Grant soon.

Dr. J. Elmer Twohig has resumed his practice in Fond du Lac after spending the past ten months in the medical corps of the U. S. Army. He has been stationed at Camp Funston for some time as a member of the discharge board.

Dr. W. J. Thomson has received his discharge from service and resumed his practice at Portage. Dr. Thomson was one of the first to go and saw active service in France.

BOOK REVIEWS

Mind and Health Series. Edited by H. Addington Bruce, A. M. Little, Brown, and Company, Boston. 1918. Price, $1.35, each. A review of the following five volumes of the series:

The Meaning of Dreams. By Isadore H. Coriat, M. D. This volume considers the principles and results of scientific dream analysis along the lines first formulated by Sigmund Freud. Whether one agrees with the Freudian theories or not, it must be admitted that Doctor Coriat is well qualified to present the doctrine and methods of Freud. The aim of the volume is to give the reader an outline of the meaning of dreams as brought out by the psycho-analytic school, in particular that method of psycho-therapy known as psycho-analysis. It is a volume of 191 pages, the scope of which will be

indicated by a few chapter headings: "The Problem of Dreams;" "The Mechanism of Dreams;" "Typical Dreams;" "Prophetic Dreams;" "Dreams and Nervous Diseases;" "The Dreams of Children," etc.

NERVOUSNESS. Its Causes, Treatment, and Prevention. By L. E. Emerson, Ph. D., Psychologist Massachusetts General Hospital.

In this little work Doctor Emerson aims to assist the nervous to look more deeply into the depths of their own souls and to know themselves for what they really are. It is written in popular style, is very readable, and is a work which can be placed in the hands of the functionally nervous with the assurance that an attentive reading should be of material assistance in regaining health.

SLEEP AND SLEEPLESSNESS. By H. Addington Bruce, A. M.

This work covers the following subjects: "Why we Sleep;" "The Mind in Sleep;" "Dreams and the Supernatural Disorders of Sleep;" "The Cause of Sleeplessness," and the "Treatment of Sleeplessness." The contrasting theories of sleep are presented and the common questions regarding sleep which we are so often asked are answered. The problem of insomnia is taken up and its causes and treatment explained.

THE INFLUENCE OF JOY. By George Van Ness Dearborn, Ph. D., M. D., Instructor in Psychology, Sargeant Normal School, Cambridge.

Part one of this volume covers the influence of joy on nutrition, the circulation, and the nervous system. Chapters in part two are: "Work and Play;" "Worry and the Glory of the World;" "The Economics of Happiness;" "The Personality." This volume is an essay setting forth the hygienic and therapeutic effects of happiness.

HUMAN MOTIVES. By James Jackson Putman. Professor Emeritus, Diseases of the Nervous System, Harvard University.

This is a study of human behavior in general, based largely on the author's use of the Freudian psychoanalytic method of mental diagnosis. It is a book which is of special interest to the physician, the clergyman, the educator, and the parent. Chapters covered are: "The Rational Basis of Religion;" "The Source of Motives;" "The Psycho-Analytic Movement;" "Instincts and Ideals;" and "An Attempt at Synthesis."

GERIATRICS—A TREATISE ON SENILE CONDITIONS, DISEASES OF ADVANCED LIFE, AND THE CARE OF THE AGED. By Malford W. Thewlis, M. D., Associate Editor Medical Review of Reviews, New York City. Introduction by A. Jacobi, M. D., LL. D., and I. L. Nasher, M. D. 250 pages. Illustrated. C. V. Mosby Co., Metropolitan Bldg., St. Louis, Missouri. 1919. Price, $3.00, net.

It was not until 1860 that American physicians showed any marked interest in pediatrics and it has been almost as difficult to impress upon American physicians today the need of special consideration in diseases of old age as it was at that time to arouse them to the necessity of a special classification and consideration of diseases of children. The work of Doctor Thewlis is especially needed and welcomed at this time.

It is a clinical presentation of cases which avoids the cut and dried text book style. This work should stimulate interest in the subject. It is recommended for every physician, whether specialist or general practitioner. It covers subjects such as neglect of the aged, their care and work, senile mentality, diet in old age, toxemia, arteriosclerosis. senile nephritis and diabetes, senile bronchitis and pneumonia, prostatic hypertrophy, malingering, the climacteric, surgery of the aged, etc.

SYMPTOMS OF VISCERAL DISEASE. A Study of the Vegetative Nervous System in its Relationship to Clinical Medicine. By Francis Marion Pottenger, A. M., M. D., LL. D., F. A. C. P., Medical Director Pottenger Sanatorium, Monrovia, California; Professor of Diseases of the Chest, University of Southern California. 328 pages. 86 text illustrations and 9 color plates. C. V. Mosby Company, Metropolitan Bldg., St. Louis, Missouri. 1919. Price, $4.00, net.

This work is a study of visceral disease in which an attempt is made to interpret in terms of visceral neurology symptoms which are found in the every day clinical observations of visceral disease. The author in his preface shows that "it is an attempt to show how pathologic changes in one organ effect other organs and the organism as a whole through the medium of the visceral nerves". He also terms it a discussion of "viscero-genic" reflexes. There can be no question that the importance of the vegetative nervous system has been quite generally ignored by clinicians and this work, unusual and new, should do much to stimulate a more careful consideration of pathologic physiology.

The work is arranged in three parts, first, the relation between the nervous system and the symptoms of visceral disease; second, innervation of important viscera with a clinical study of the more common viscerogenic reflexes; third, the vegetative nervous system.

HANDBOOK OF MENTAL EXAMINATION METHODS. By Shepherd Ivory Franz, Ph. D., M. D., LL. D., Scientific Director and Psychologist, St. Elizabeth's Hospital; Professor of Physiology and Experimental Psychology, George Washington University, Washington, D. C. Second edition, revised and enlarged. 41 figures and diagrams. 193 pages. The MacMillan Co., New York. 1919. Price, $2.00, net.

This little work, since its first edition in 1910, the result of a demand for a publication of a series of lectures and demonstrations given to internes of the government hospitals for the insane, has been the standard on the subject. The book places in the hands of psychologists, neurologists, and students the accepted and standard methods of examination. The present edition makes corrections and alterations in every chapter and there is added one new chapter dealing with mental testing. As stated, the work is absolutely standard and should be in the library of every institution for the treatment of mental cases, in the hands of all practitioners doing this work and will be of almost equal value to those interested in the measurement of mentality of defective children and others.

BOOK REVIEWS

THE MEDICAL CLINICS OF NORTH AMERICA. Vol. 2, Numbers 4 and 5. January and March, 1919, New York and Boston numbers respectively. W. B. Saunders Company, Philadelphia and London. Issued bi-monthly. Price $10—yearly.

These two volumes contain valuable information presented in the case history form. There are a great variety of cases presented including several articles listed as contributions dealing with subjects allied to, and intimately associated with, Medicine and Medical Education. There is no doubt that this case-history method of presenting medical problems is much more interesting than the ordinary text book description. There is something concrete for the reader to grasp and the discussions present the more recent advances in medicine, surgery, and allied branches. The illustrations are well made and assist materially in supplementing the text.

L. M. W.

DIET IN HEALTH AND DISEASE. By Julius Friedenwald, M. D., Professor of Gastro-Enterology in the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore; and John Ruhrah, M. D., Professor of Diseases of Children in the University of Maryland and College of Physicians and Surgeons, Baltimore. Fifth edition, thoroughly revised and enlarged. Philadelphia and London: W. B. Saunders Company, 1919. Octavo of 919 pages. Cloth, $6.00.

This well-known and standard work on diet has been received so favorably by the profession as to require little from the pen of a reviewer other than a note of changes made in this, the fifth edition. The aims of the first edition in presenting to the general practitioner, the medical student, the hospital interne, and the training schools a book which would be entirely practical and concise have been strictly adhered to. The literature on the subject in recent years has been so voluminous and these contributions so influenced by fads and fancies that the value of a standard text by such authors as these can not be over estimated, especially to those who have not made a careful study of the subject.

The best modern thought on dietetics has been brought together in a comparatively small number of pages. A considerable portion of the old volume has been rewritten, including the sections on infant feeding, rectal feeding. diabetes, obesity, acidosis, the Karell cure, renal disease, etc., and a number of new articles such as Sippy's diet in peptic ulcer, milk standards, vitamins, etc., have been added. Through a special arrangement with D. Appleton and Company, it has been possible to add the valuable tables prepared by Doctor Locke. The work in all ways measure up to the standards set in previous editions and is recommended as an authorative, accurate work on the subject, which is free from fads and of unquestionable value for daily reference by medical man.

TUBERCULOSIS OF THE LYMPHATIC SYSTEM. By Walter Bradford Metcalf, M. D., Associate in Clinical Medicine, University of Illinois, College of Medicine. Member, consulting staff Cook County Hospital, Chicago Municipal Tuberculosis Sanitarium, Lake Geneva Sanitarium, Volunteer Medical Service Corps of the United States; formerly, Attending Physician Cook County Hospital, Department of Tuberculosis. The Macmillan Company, New York, 1919. Price $2.75.

This book touches a very important subject and one which is all too common.

The author discusses the subject from all angles. He begins with a chapter on anatomical considerations in which he takes up the development of the lymphatic system. He next takes up an analysis of all the lymphatic chains and lymphatic drainage. Chapter 3 is Physiological Considerations. Chapter 4, Etiology, in which are included all factors taking part in the development of lymph gland tuberculosis. Chapter 5, takes up the subheading of Pathology; Chapter 6, Signs and Symptoms; Chapter 7, Prognosis; Chapter 8, Diagnosis, including the specific reactions; Chapter 9, Treatment.

There is no doubt that the author has given us an excellent discussion of the subject. He has not only culled the best from the enormous mass of literature, but he has digested it and used it most advantageously. His discussions of all mooted points have a sane basis which is delightful in this age of rapid specialism. This is a valuable addition to the book shelves of any physician and can be recommended further from the standpoint of accuracy in detail and in rational viewpoints. No one could follow the author's recommendations and go wrong. We really welcome this book, it actually has, in our opinion, a place of its own and we congratulate the author upon his first edition.

So few errors are found that they need no comment. The proof evidently was most carefully read.

A selected bibliography is appended at the end of the book and an index completes this most interesting volume.

L. M. W.

ORTHOPAEDIC SURGERY. By Royal Whitman, M. D., M. R. C. S., Eng., F. A. C. S. A Director of Military Orthopaedic Teaching; Chairman of the Medical Advisory Board for Orthopaedics in New York City; Associate Surgeon to the Hospital for Ruptured and Crippled; Orthopaedic Surgeon to the Hospital of St. John's Guild; Consulting Orthopaedic Surgeon to St. Agnes' Hospital for Crippled and Atypical Children, White Plains, to the New York Home for Destitute Crippled Children and to the New York State Board of Health; Corresponding Member of the British Orthopaedic Society; Member of the New York Surgical Society, etc. Lea & Febiger, Philadelphia and New York, 1919.

This book represents the author's accumulation of a large surgical and orthopaedic experience over a large number of years and must surely prove of great value to both medical and surgical practitioners. As a text book for students, there probably is none better. The practical and refined methods and points in the diagnosis and differential diagnosis of the diseases of the bones and joints are very well presented. The prognosis and the treatment are clearly defined and outlined. The diffi-

culty of the selection of illustrations for such a book has been successfully met with. The chapters on tuberculosis of the spine, anterior poleomyelitis, deformities of the foot and military orthopaedics are especially commendable. F. B. M.

THE SURGICAL CLINICS OF CHICAGO. Vol. III, No. 2, April, 1919. Published bi-monthly by W. B. Saunders Co., Philadelphia.

This number of the "Clinics" is replete with surgical discussions and clinic reports that should interest alike the busy surgeon and the occasional operator. It contains 243 pages and sixty-three illustrations, some of them full page. Forty-one subjects are discussed by seventeen different contributors. It is well indexed, and each case discussed is prefaced by a brief synopsis which is of great assistance to a busy reader.

Somehow it seems odd to hear Ochsner discuss fractures, hare-lip and cleft palate, but he does it interestingly and with his usual convincing directness. In a prelude to an appendectomy, Bevan gives an entertaining historical review of the development of our knowledge of appendicitis, as he has "lived through" it. Space does not permit us to record all the commendable things that might be said of the various contributors. One is somewhat disappointed at first to notice that many of the contributions differ in no important respect from ordinary medical journal reports on surgical subjects, written up at home in the calm and quiet of one's study. Such reports, written up in this fashion, lack the free and extemporaneous style of real clinic teaching, and have but few of the ear-marks of the ward or operating room, which one naturally looks for in a volume of "Clinics". However, this is not mentioned as a serious fault. On the contrary, a clinic case written up by the surgeon with cool deliberation, is more likely to be discussed with greater regard for accuracy of statement than one usually hears in the extemporaneous emissions caught by the stenographer at the side of the arena.

This number of the "Clinics" is one of the best that has come to our attention. C. M. E.

THE OPERATIONS OF OBSTETRICS. By Frederick Elmer Leavitt, M. D., formerly assistant professor of obstetrics and gynecology, University of Minnesota; obstetrician to the City and County Hospital, the St. Paul Hospital, The Bethesda Hospital, etc., St. Paul, Minnesota. By C. V. Mosby Company, St. Louis.

This book presents the subject from the operative viewpoint. It is and should be of considerable service to the general practitioner who is forced to conduct complicated deliveries.

The book is profusely illustrated, containing half as many ingravings as the total number of pages. Many of the cuts were prepared from original drawings made by the author. J. P. M.

AN OUTLINE OF GENITO-URINARY SURGERY. By George Gilbert Smith, M. D., F. A. C. S. Genito-Urinary Surgeon to Out-patients Massachusetts General Hospital. 12mo of 301 pages with 71 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Cloth $2.75 net.

While this book pretends to be but an outline, it is sufficiently comprehensive to be of considerable assistance in making refined diagnosis of Genito-Urinary disease.

The indications for medical and minor surgery treatment is given in more or less detail and the technic of major surgery is outlined in sufficient detail to acquaint an operator with the exact aims, nature, possible complications and sequelae of major procedures.

The text contained is illustrated with the cuts from original drawings. The compend should serve as a ready and satisfactory reference for medical students and busy practictioners. J. P. M.

THE JOURNAL OF INDUSTRIAL HYGIENE. Published by the MacMillan Company, Fifth Avenue, New York City. Edited by David Edsall, A. M., M. D.

We are indebted to the MacMillan Company for number two, Volume one, of this new journal. The number contains articles on the use of army gas masks in industries, human health and the American engineer, fractures of terminal phalanges, inorganic poisons other than lead in American industries, medical inspection of factory employees, etc. The magazine is especially recommended to those doing industrial work; it is attractively printed and its advertising pages are clean.

WHO KILLED JOHN BARLEYCORN?

PHYSICIANS CLAIM CREDIT.

Now that John Barleycorn is about to be laid at rest, people are asking questions about who started the movement for nation-wide prohibition. According to Harry M. Chalfant, in the Medical World, Dr. Benjamin Rush seems to have that distinction.

It was about the close of the Revolutionary War that Dr. Rush started a campaign against spirituous liquors. Being a physician, he laid stress upon the destructive effects of liquor upon the human body.

In 1798 Dr. Rush appealed to the ministers of the country to abstain from the use of spirituous liquors themselves and to preach against their use and in favor of total abstinence.

In 1790 Robt. Morris introduced into the United States Senate a memorial from the College of Physicians and Surgeons in Philadelphia praying for heavy duties on distilled spirits, so as to restrain their intemperate use.

Ninety years ago the Philadelphia Medical Society took up the fight and published a report showing that of 4,292 deaths it had studied, one-sixth had been hastened by the use of liquor.

In 1834 eighty of Philadelphia's most prominent physicians issued a document setting forth that "the use of ardent spirits is a frequent cause of disease and death, and often renders such diseases as arise from other causes more difficult in their determination."

Thus, it appears, the medical profession helped to sow the seed which has just matured.

Well, who gainsays it?—C. R. D. A. News.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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The Wisconsin Medical Journal, Official Publication

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Wood	J. C. Hayward, Marshfield	Wm. Hipke, Marshfield.

SOCIETY PROCEEDINGS

FOND DU LAC COUNTY

The annual outing of the Fond du Lac County Medical Society was held Wednesday, July 16, at Green Lake. The entertainment consisted of a three hours' ride about the lake and a stop for a fish supper. The medical societies of Green Lake and Waushara Counties were invited to join the merry-makers and a most delightful day was spent, about eighty members being in attendance.

KENOSHA COUNTY

The regular meeting of the Kenosha County Medical Society was held Friday evening, July 18, at the Elks' Club. Captain Burton Haseltine of Fort Sheridan, the noted army surgeon, addressed the meeting on "Unscrambling the Army," and an invitation was extended to the general public to be present.

NINTH COUNCILOR DISTRICT.

The regular summer meeting of the Ninth Councilor District Medical Society was held at the Elks' Club, Grand Rapids, Thursday afternoon, July 24, at two o'clock. The meeting was opened with an exhibition of some interesting clinical cases of influenza after which the following program was given: "The Pathology and Bacteriology of Influenza," Dr. C. D. Partridge, Wausau; "The Diagnosis and Clinical Course," Dr. H. H. Milbee, Marshfield; "Prophylaxis, Including Vaccination," Dr. D. T. Jones, Wausau, and "Treatment," by Dr. W. G. Merrill, Grand Rapids. The program was followed by a dinner at the Hotel Witter.

ROCK COUNTY

A meeting of the Rock County Medical Society was held at the Highland Hotel, Lake Delavan, July 29. A delicious chicken dinner was served to about fifty physicians and their wives after which Dr. Philip H. Kreuscher of Chicago addressed the meeting on the subject, "Bone and Joint Infections—a Plea for Earlier Recognition and More Radical Treatment," a topic which proved very interesting and instructive.

CORRESPONDENCE

Editor and Publisher, July 24, 1919.
Wisconsin Medical Journal,
Milwaukee, Wis.

Dear Sir:—

At the recent meeting of the American Medical Association several sections passed resolutions asking for the appropriation of $1,500,000 by the government to be used for the purpose of carrying on an investigation on influenza, its cause, prevention and treatment.

I am enclosing a copy of the set of resolutions and six questions and answers containing data asked for by a member of congress, which you may wish to use in your publication. Yours very truly,

OTTO P. GEIER,
Secretary, Miscellaneous Topics Section on Industrial Medicine and Surgery, American Medical Association.

Whereas, The present influenza epidemic caused approximately 500,000 deaths in the United States, and

Whereas, A large proportion of these deaths were produced by pneumonia and other complications, and

Whereas, Influenza, pneumonia, and allied diseases now cause approximately one-tenth of all the deaths of the United States, and

Whereas, Medical science is not yet in possession of complete data as to the cause, modes of transmission, prevention and cure of this disease and its complications, and

Whereas, The possession of this knowledge is of grave social and economic concern to the nation;

Therefore Be It Resolved, That it is the sense of the members of the section on Industrial Medicine and Surgery of the American Medical Association, here assembled to discuss influenza, that Congress should and is hereby urged to appropriate not less than $1,500,000 to be used under the direction of the U. S. Public Health Service for the investigation of the causes, modes of transmission, prevention and cure of influenza, pneumonia, and allied diseases, this sum to be made available to July 1, 1922.

Transmitted by order of the session, held in Atlantic City, June 13, 1919. DR. OTTO P. GEIER,
Secretary.

1.

Q. Will the epidemic again appear?

A. The epidemic will recur, for medical history shows that we have had a series of influenza or grippe epidemics the last of which proved to be of the most virulent type. There immediately occur to me those of 1867 and of 1889 to 1895. The Metropolitan Life has issued some very definite figures on this latter epidemic covering millions of policy holders, which show an average increased mortality for the five years following of 40 per cent above the normal death rate. Any estimate of economic loss should include the 40 per cent increased mortality that, in all likelihood, will similarly occur in the next four or five years.

2.

Q. Is its origin fairly well known? If not the likelihood of definite information by research.

A. Much private research has been carried on, but its origin and spread is still undetermined. This must be collected and further stimulated, for only through careful research is there any likelihood of definite information.

3.

Q. What success in the discovery of an antitoxin?

A. The possibility of the discovery of a real antitoxin for influenza is wholly dependent upon the discovery of the actual germ, causing the disease.

4.

Q. The possibility of collecting necessary information and its distribution among the people to reduce the dangers of its spread and increase the chances of recovery?

A. I need but cite two of many similar researches, successfully undertaken, that have practically eliminated the dangers of the spread of disease, to-wit, malaria and typhoid. Except for our knowledge of typhoid, the

armies of Europe would have been decimated by this disease alone.

5.

Q. The generally bad after effects of the disease?

A. The generally bad after effects of the disease are unfortunately too well known by the profession. The Red Cross Chapter in Cincinnati is expending perhaps $200,000 in an effort to examine physically every person that has suffered from influenza; to discover the pathological conditions—bad hearts, bad kidneys and lungs—resulting from this epidemic, and relieving the poverty and chronic invalidism that accompanies it.

6.

Q. The economic loss to the country of the epidemic?

A. The economic loss can hardly be estimated. The 500,000 deaths alone represent $2,500,000,000 economic loss. Economists all agree to the fact that $5,000 is the minimum social and economic value of a human life. It is safe to say that 10,000,000 people had the disease and that they lost 150,000,000 working days. At a minimum combined loss of wage and production of $7.00 per day, there has been another $1,000,000,000 of economic loss to the country. In other words, conservatively speaking, we had between $3,000,000,000 and $4,000,000,000 loss in this last epidemic.

NEWS ITEMS AND PERSONALS.

Dr. H. B. Podlasky has resigned as roentgenologist to the U. S. General Hospital No. I and has opened a private X-ray laboratory in the Palace Theatre Building, Milwaukee.

Two of the four contemplated medical buildings for the University of Wisconsin, the Bradley Memorial Hall and the University Infirmary, will be completed before fall, according to H. J. Thorkelson, University business manager. The clinic will remain at its present location for the time being and the infirmary will be transferred from the University Club.

Miss Marion Rottman has been appointed superintendent of Emergency Hospital, Milwaukee, to succeed Miss Regina White, resigned, and took charge of her new duties August first. Miss Rottman, who formerly resided at Sturgeon Bay, was chief nurse of Base Hospital No. 1 during the war.

At a meeting of the Rock County board of supervisors, definite steps were taken to build a $100,000 tuberculosis sanatorium. The new institution will be located on the Hemingway farm, just south of the county poor farm.

The Children's Fresh Air Pavilion at North Point Water Works Park, Milwaukee, was opened July first, admitting babies from one to five years of age who need treatment for malnutrition. The children will stay at the pavilion at night as well as during the day, remaining until their cases have been dismissed.

Drs. G. H. Ripley, Kenosha, H. W. Abraham, Appleton, C. W. Rodecker, Holcomb, and J. M. Dodd, Ashland, have been reappointed as members of the State Board of Medical Examiners by Governor E. L. Philipp.

The industrial commission is planning a campaign to reduce the number of occupational diseases in the state. In its appropriation for the next two years, there is included an item of from $2,000 to $3,000 for the employment of a sanitary engineer. The duties of this engineer will be to assist employers in the removal of dust and fumes. He will further be charged with the duty of giving assistance to employers to reduce such hazards as lead poisoning, caisson disease, trade eczema and tuberculosis in sand blasting.

Dr. Lewis Frick, who has practiced medicine in Two Rivers for the past eighteen months, has removed to Athens to practice.

Dr. Frank S. Tuffley of Boscobel has become the possessor of the Pipkin property which he is going to convert into a modern hospital.

The war will be responsible for a shortage of about 1,000 babies in Milwaukee this year, according to city health department figures for the first six months of 1919. The birth rate for three years shows a slight reduction. In 1916 the rate was 26.44; in 1917, 26.26, and in 1918, 26.28. With the exception of January, 1919, each month shows a shortage of from 74 to 127 births.

Dr. E. F. Bickel of Oshkosh has gone to Massachusetts where he will take a post-graduate course at the Massachusetts General Hospital.

Health Commissioner Ruhland of Milwaukee has undertaken a campaign in co-operation with social welfare agencies to reduce infant mortality in Milwaukee. Fourteen infant welfare stations have been established.

Dr. John W. Powers has opened an office at 1219 Majestic Building, Milwaukee. His practice is limited to orthopedic surgery.

A new hospital is to be opened in Superior shortly, under the auspices of the Sisters of St. Joseph's order.

Governor Philipp has appointed Dr. G. Windesheim, Kenosha, as a member of the state board of health and vital statistics, to succeed Dr. J. M. Furstman, La Crosse, resigned.

Miss Constance Hayes, formerly superintendent of the Willowbrook Sanatorium in Kenosha County, was recently cited by King Peter of Serbia for her splendid work in organizing the campaign in that war ridden country against the spread of tuberculosis.

Wisconsin is making record-breaking advances in the public health nursing movement, and is believed to be the first state to enact a state law making every county responsible for the employment of a public health nurse. Laona, in Forest County, is believed to be the first township in the United States to employ a nurse. The new county nurse law requires counties to appoint such nurses upon the certification of a committee of three, consisting of Dr. C. A. Harper, representing the state board of health; A. B. Cook, representing the state department of public instruction, and a representative of the registered nurses' association. Nearly one-fourth of the counties employ public health nurses, as a result of voluntary action inspired by civic organizations.

Fifteen Oshkosh physicians purchased a large apartment building in the heart of that city and will have offices there, organizing the Oshkosh clinic, which has been incorporated by Dr. C. J. Combs, Dr. H. Morgenroth and Dr. C. Nims.

DEATHS

Dr. J. A. Schmidt, an early day physician of Hustisford and well known to the older residents of Dodge County, died at Hopkinsville, Kentucky, June 19, at the age of 87 years. Dr. Schmidt was born in Germany in 1832 and studied medicine there, coming to America and locating at Hustisford when a young man. He practiced medicine in that village for fifty years, moving to Hopkinsville about twenty years ago.

Dr. S. W. Mead, a former physician of Plymouth, died at his home in Montara, California, June 29, aged 72 years, of heart trouble. Dr. Mead practiced in Plymouth until nineteen years ago when he removed to the far west.

Dr. C. A. Obertin of Union Grove died at the home of his brother, Jos. Obertin, Milwaukee, July 1, at the age of 38. He was born at Adell, 1881, and graduated from Marquette University School of Medicine in 1904. After graduation, he practiced for a time in Milwaukee, then going to Union Grove, where he has practiced for the past thirteen years. Dr. Obertin was a member of the Racine County, Wisconsin State, and American Medical Associations.

MARRIAGES

Dr. R. P. Potter, Marshfield, to Miss Josephine Fritch, Minneapolis, July 1, 1919.

Dr. C. J. Ouelette, Oconto, to Miss Katherine Walsh, Rubicon, Michigan.

PUBLIC HEALTH AND LABORATORIES

RABIES.

W. D. STOVALL, M. D.,
WISCONSIN STATE LABORATORY OF HYGIENE.

For the past two years the diagnosis of rabies has been frequent. The situation continues to get worse. In the laboratory it has become possible to make a diagnosis by knowing from what county the specimen is received. Last year we made diagnoses of rabies in Racine, Rock, Dane, Vernon, Green, La Crosse, Columbia, Langlade, Shawano, Milwaukee and Waukesha Counties. Thousands of dollars worth of valuable live stock have been destroyed by this disease not to speak of the more serious results. Last year within ten miles of Madison two patients, children, died of rabies and one other death is recorded in the state as a result of the prevalence of this disease. While these deaths are few, still they are sad and particularly so since rabies is one disease which it is possible to completely eradicate by comparatively simple measures, license on all dogs, and a leash and muzzle law.

In order to show the seriousness with which this disease is considered in other parts of the country and in other countries I have given below a copy of a letter written to the editor of the Boston Medical and Surgical Journal which appeared in that journal May 19, 1919. It will be noticed that the letter expresses the fear of the "mascots" of our returning soldiers. This fear is justified and the letter is timely. We in Wisconsin, however, have nothing to fear because we already have a worse condition than could be brought to us by a few dogs.

"The 'mascots,' etc., of our returning fighters may bring unsuspected danger. Our false security is enhanced by a serious mistake in the current National Geographical Magazine (page 279) to the effect that not a case of rabies has appeared in England since 1902. On the contrary, last year an epidemic started there (probably in May, 1918, but whether brought by air craft or by sea craft is uncertain) and is still increasing its field. In France rabies has steadily spread since the first of the war, in a virulent and short-incubation type. Accordingly, the English Government, early in January, arranged for proper treatment at Plymouth, but late in February, the responsible officer in Parliament deprecated the view that the danger was over—as it turned out, with good reason. Fortunately, such proper treatment is successful, 9,000 cases in the Lyons district giving a mortality under one-tenth of one per cent.

"My chief object in this letter is to urge readers to do some missionary work against killing suspected dogs before the popular mind becomes unreasonable through fear. If the dog is killed after biting, the chance of a sufficient autopsy is slight and the injury is serious to the person bitten; he would not duly appreciate a negative finding in a scientific examination, but if the dog lives and is obviously healthy, the patient has no excuse for 'psychic hydrophobia' which has been found to exist independent of rabies. Such killing of the dogs seems to be a curious survival of the trial and punishment of animals, on which much has recently been written. ALFRED ELA."

Because of the prevalence of this disease and the many requests for information which are received, a discussion with particular reference to the diagnosis and prevention seems necessary.

Rabies is an acute communicable disease which affects nearly all warm blooded animals. It is communicated from an infected animal to one which is susceptible through abrasion, scratches and other wounds involving the skin and mucous surfaces. The disease is transmitted to man by bites of domestic animals, usually dogs or cats, the saliva of these animals being infectious.

The incubation period varies with different animals, being for man between 40 to 50 days on the average. This is modified, however, by the location and severity of the bite and the virulence of the infection. Incubation periods as long as six months have not uncommonly been reported and one or two instances of even longer periods. The average incubation periods allow ample time for the patient to have antirabic treatment provided the physicians and the family are aware of the situation and have taken the proper means to find out if the treatment is required. The notion that the disease develops within seven to nine days after the bite is not correct.

The diagnosis of this disease for the treatment to be effective must be made on the animal which inflicts the bite. This diagnosis like all other diagnoses depends upon three main factors: First, whether or not rabies is prevalent in the community; second, whether or not the animal, usually a dog or cat, shows the symptoms of the disease; and lastly, whether or not the microscopic examination reveals Negri bodies. The finding of Negri bodies depends upon the stage of the disease at which the animal is killed. The laboratory frequently is asked to make an examination for the diagnosis of rabies and to make recommendation as to the advisability of persons bitten taking the Pasteur treatment when we are supplied with no information surrounding the case or the accident. It is plain to see that under these circumstances no well founded advice can be given; so that it often results that physicians and patients are disappointed when they receive a letter from the laboratory saying that we have been unable to find Negri bodies and that if the animal was not killed too early after the onset of the disease that we believe that it did not have rabies. In those cases where we are not supplied with the facts concerning the behavior of the animal before the person was exposed to the infection or how soon after the exposure the animal was killed, the severity of the wound or any other facts which might have bearing upon the case, the laboratory has nothing but a negative microscopic finding upon which to base an opinion. If we have all of the facts together with the negative microscopic findings, we are able to advise whether or not the patient should submit to treatment.

The interpretation of laboratory findings is the most important. The results unaided by clinical data and the proper interpretation may often be worse than no laboratory diagnosis. The laboratory is frequently relied upon to make the diagnosis. Sometimes this works out to an advantage but more frequently it will work to a great disadvantage. No laboratory should attempt a diagnosis. The laboratory can only report what it finds and the physician must put the clinical and laboratory data together for a diagnosis.

In the case of rabies when Negri bodies are found, that is a diagnosis of rabies and indicates that all exposed persons should receive the treatment.

The point which I am trying to make will probably be made clearer by giving a copy of the letters which we use to report cases in which we do and do not find Negri bodies. The laboratory can not and does not want to dodge the responsibility for advising in these cases but on the other hand we can not for the sake of appearing ready to give specific advice for the momentary effect it will have, give advice which is half guess. If we have all of the facts and can give a well grounded opinion then it is our duty and obligation to advise. It is not our duty, however, to say more than the facts in the case warrant.

There are many circumstances which modify a negative report and in making the report this laboratory always mentions these circumstances so that the physicians may know how to interpret the negative finding. The reports on rabies go as follows:

"Examination of the head received today showed Negri bodies. We therefore believe that this animal had rabies.

"Persons bitten by this animal should receive treatment at once. They may take the treatment by coming to the laboratory, where they will have to stay three weeks. They will have to pay their own expenses while here and in addition $25 for the treatment. They may stay at home and have their home physician give the treatment. He will have to order the treatment from E. R. Squibb and Sons, Biological Laboratory, New Brunswick, N. J. He should send the following telegram: 'Am advised by the State Board of Health to request antirabic treatment for one person;' or, of course, as many as are to be treated.' It is necessary to mention the State Board of Health because of a contract which they have with E. R. Squibb and Sons to furnish the treatment at a reduced rate. If they are mentioned the treatment is obtained for $25."

In those cases where Negri bodies are found the advice is plain. In those cases where they are not found and no information or circumstances surrounding the case are supplied the laboratory reports as follows:

The Wisconsin Medical Journal

Volume XVIII MILWAUKEE, SEPTEMBER, 1919 Number 4

ORIGINAL ARTICLES

A RECOGNITION OF LOCAL AND GENERAL RESISTANCE AS GUIDES IN THE TREATMENT OF CERTAIN CHRONIC MALIGN AFFECTIONS.

BY J. L. YATES, M. D.,

MILWAUKEE.

The epithet "malignant" is applied in a pathological sense to denote metastasizing neoplasms. These neoplasms are commonly believed to be inevitably lethal unless destroyed, root and branch, by some form of treatment. Spontaneous recovery has not been accepted as a possibility because a positive diagnosis is established only when the stage of the process makes an unfavorable outcome a certainty. Similarly the local destruction of tumor cells remaining after radical extirpations of the main growth is believed to be an improbability. There is little tangible evidence of the efficacy of such a protective reaction though its mechanism has in part been described by Handley. Should a permanent recovery follow an operation for cancer this is accepted as the result of a removal of every malignant cell.

It is well known that there may be a long latent period (26 years) between operation and final metastatic activity, hence there is no possible arbitrary time limit to establish a cure. Surgeons of extended experience can cite patients who have made an apparently perfect recovery from an incomplete operation performed years previously.

Due considerations of these facts in connection with knowledge of the clinical manifestations of the terminal phases of cancer development, and with the experimental observations of James B. Murphy and his associates, gives adequate bases for an acceptance of the existence of fluctuating influences antagonistic to some types of malignant growths.

In addition to tumors of this group there are the chronic granulomatous affections, which are held, or at some time have been held, to be quite as commonly lethal. For example: A group recognized under the name of Hodgkin's Disease is believed to be irrecoverable, and is considered by some to be a granuloma, by others to be a neoplasm and by still others a granuloma with a tendency to provoke malignant metamorphosis of tissues involved, endothelial, lymphoblastic or fibrous. This last view point is probably sustained clinically and pathologically and makes an excellent connecting link between the pure neoplasms on the one hand, and on the other, the granulomas with little or no tendency to induce malignant changes.

Tuberculosis is typical of this latter category. Its untoward effects are subject to individual variation and to variations due to the tissues involved. Meningeal, renal, peritoneal, pleural or even glandular tuberculosis may be just as malignant as any cancer in its results in divers proportions of individuals thus affected. Blastinomycosis and actinomycosis have this vicious potentiality more highly developed.

There is good reason from a therapeutic aspect to collect into one group those morbid processes which provoke similar defensive reactions though the etiology and proportion of consequent fatalities show a wide dissimilarity. Studies of chronic surgical affections of this type conducted with the intimate co-operation of Dr. C. H. Bunting have lead to a tentative inclusion in such a group of the following:

1. Tumors.
   - (a) Carcinoma
   - (b) Endothelioma
   - (c) Lympho-blastoma (Mallory)
   - (d) Lympho-sarcoma
   - (e) Mesothelioma

II. Granulomas.
   - (a) Tuberculosis
   - (b) Hodgkin's Disease
   - (c) Lymphocytic leukemias
   - (d) Actinomycosis
   - (e) Blastomycosis

The individual affected by disease is less interested in the exact classification thereof than in the degree of malignancy or benignancy manifested by the process, and determined by death, disability or recovery in that instance.

Since any individual affected by one of these diseases may be destined to death as a direct result no matter how treated, it follows that each individual must be given every therapeutic advantage for ultimate recovery. Fluctuations in local and general resistance, whether spontaneous or induced, determine the course of the disease. It is safer to over-rate the malignancy of the process and to under-rate individual powers of resistance. Hence we have designated this group as chronic malign affections.

Current conceptions of the variable but interdependent factors of local and general resistance in determining relative degrees of malignancy and benignancy depend largely upon observations made in acute infectious diseases. Under these conditions local resistance is estimated by focal reaction in which tissue necrosis and the character, amount and distribution of a fibrino-purulent exudate are principal elements. General resistance is estimated by somatic reactions in which are significant, abnormal variations in temperature, heart action, in function of the nervous system and in the blood picture, particularly in the number and character of the polymorpho nuclear leucocytes. The consistency of these responses to the toxines of various offending micro-organisms or to acutely necrosed tissue or to combinations of the two, justifies an assumption that natural defenses against them are produced by a similar if not identical mechanism.

In the chronic affections, the influence of local and general resistance upon the outcome is no less important though it be less definitely appreciated. Local resistance appears to be indicated by a fibrous tissue—lymphocytic reaction, and general resistance by a preservation of general fitness which is particularly notable in unimpaired hematopoetic and lymphoblastic functions. Here again similarity of response to irritation of a less intensely toxic nature seems to indicate a constant method of defense.

Appreciation of the importance of a leucocytosis in determining resistance to acute affections led to attempts to induce this reaction therapeutically and prophylactically. Such procedures failed because they were usually physiologically incorrect. Individuals failed to develope a suitable leucocytosis because of an inability to respond to the intensity of the intoxication. Stimulation of leucoblasts already over-irritated is worse than useless.

Pre-operative production of a leucocytosis was tried out in Mikulicz's clinic and found to be unsatisfactory. Operations conducted in the presence of infection must be timed to avoid negative phases in resistance. When infection is absent a normal reaction to the irritation consequent upon operation is as safe or safer than operating during the height of an induced leucocytosis.

On the other hand procedures which are efficacious in protecting local and general resistance have become more widely accepted. Elimination of irritation to place the balance of power on the side of the individual, physiological rest to prevent dissemination and to protect general resistance, and preservation of blood and nerve supply to protect local resistance seem to be finally established.

Similar problems require solution in the treatment of chronic malign affections. Granting that they all have in common the characteristic of atypical tissue proliferation, and that such growth is a response to abnormal stimulation which may be called irritation, then it is evident that the first step in treatment should be to eliminate the sources of the irritants.

Again there is similarity to acute processes. Irritants are produced by microrganisms, by morbidly growing and degenerating tissues (although the factors that determined the origin of the proliferation may have become inactive) and by combinations of these two methods of toxine production.

Whatever be the process it is always malign for the individual incapable of overcoming it while the disease is still focalized. During the indefinite period of comparative localization the host is developing more or less effectively a generalized reaction against the provoking irritant. The reactions against irritants that induce atypical tissue proliferation or are produced thereby, are, in the light of present lack of knowledge, variable only in degree.

Locally there is a small round cell infiltration about the process and a tendency to an overgrowth of fibrous tissues within and around it. A general response is evidenced by an increase in the lymphocytes in the blood stream, by slight depressions

in general health accompanied by very limited variations in temperature.

These manifestations are usually restricted and occur early in the disease at short intervals over long periods and thereby escape detection. It is only when a process advances rapidly that they are recognized and this is usually in late stages. Apparently from the onset to the end this group of diseases progresses intermittently somewhat after the fashion of a temperature curve in septicemia. Locally the morbid process increases in size and its margins become less distinct because of an acute edema in surrounding tissues. At the same time the individual may feel somewhat below par, and may be conscious of unusual variations in temperature or there may be no subjective manifestations.

It may be assumed that these phases in progress are to be attributed to periods of increased activity on the part of the disease or to decreased reaction against the disease on the part of the host. The prominence of these fluctuations during the earlier stages depends upon the nature of the toxins and upon individual resistance. One characteristic is common to all types, a liability to a comparatively sudden change in the late stage. The disease may have been quite stationary for a considerable period with little apparent influence upon general health and then almost overnight there is wide dissemination with rapidly progressing disability. It is rational to explain these reactions as consequent upon variations and fluctuations in local and general resistance. Treatment should be designed to co-operate with natural methods of defense, and to be effective must seek to conserve defense however radical the means to this conservation.

Recall again the cardinal principles established in treating acute irritations, viz: elimination of irritants; conservation of local defense; maintenance of unimpaired general resistance.

According to the conceptions of malign affections here advanced, namely a disease due to chronic irritation which the individual is unable to over-come spontaneously, these same principles of treatment are equally applicable. Opinions may differ as to the methods of application of the principles.

Chronicity with consequent magnification of the importance of the physical signs of disease, particularly because of slight and evanescent physiological reactions, has focused attention upon that side. The human tendency to dwell upon successes or even upon apparent successes has led to honestly made but inaccurate reports of cures. Latent periods, often of several years' duration, spontaneous or induced, and in which no evidence of disease is recognized, have mislead competent observers into mistaking an extended period of remission for a cure.

The object in treating disease is not to cause a disappearance in its manifestations but to eradicate the cause. None may present evidence of successful treatment and expect the same to go unquestioned if the process at the time treatment was begun had not assumed the characteristics that establish its lethal nature were it left untreated, and if a careful necropsy made years later failing to show a trace of the original process is not included.

Adequate treatment must be based upon physiological reactions and must offer to each individual every opportunity for complete recovery and not be biased by any successes, real or apparent, attained by short cut methods. No single form of treatment by surgery, radiation, serum, hygiene or internal medication has as yet been found to be sufficient. A co-ordination of all of these therapeutic agencies now seems to offer the best chances, with, of course, the usual exceptions.

Our argument of a general plan for treating these affections may be summarized under these heads:

1. Elimination of irritants.

The primary focus or portal of entry should be destroyed permanently by the most suitable means, knife, cautery or radiation or combinations of these methods. The regional area of lymphatic glands and gland bearing tissue should be extirpated accurately. The earlier the process, the more radical should be the excision.

Any other accessible involvement should be similarly treated so long as the patient's general condition warrants it, because such a focus becomes in effect a primary focus.

II. Conservation of local defenses.

Protection of local resistance, after elimination of the specific irritant is attained, is going to depend on the character of repair that follows extirpation. This will be satisfactory in proportion to the integrity of blood and nerve supply and to the reduction of limitations of function by avoidable fibrous tissue formation.

Radiation has not been found as capable of destroying the sources of local irritation with as good prospects of unimpaired local resistance as has suitable dissection. A regeneration of lymphatic apparatus in an excised area cannot be prevented nor would this be desirable if possible. Function would suffer, but more important still, the individual would be deprived of the benefits of these new lymphatic structures, which seem to be hyper resistent and to contribute to the general protection.* Great advantage can be obtained from radiation after operation. Properly given, the X-rays can destroy toxine forming cells that operation fails to remove. It can retard the regeneration of lymphatic structures until destruction of the offending cells or organisms has been accomplished and thus reduce the danger of local recurrence. It can also do great damage. Not only locally by burns, by provoking serious hemorrhage and by interfering with healing, but also by its effect upon the body. Whatever may be found to be the explanation, radiation of the circulating blood can produce profound changes in the blood particularly in causing a reduction in the lymphocytes.

The persistance of a high lymphocyte count has proved to be the most reliable single proof of a high state of general resistance in these diseases. A rapid and persistent fall in the number of lymphocytes has regularly heralded approaching disaster. It is possible that these observations may explain the occasional stimulation of malignant activity by the X-ray. For this reason the dosage and periodicity of treatments should be controlled in part by the blood reaction. Since adopting this safeguard the only patients who have been made worse by over-radiation have been those whose treatment was given by specialists who refused to be guided.

III. Maintenance of unimpaired general resistance.

The real problems lie in this field which has been woefully neglected because attention has been centered upon the physical to the neglect of the physiological aspects, and because of a wondrous superstition that the omnipotent surgeon completed the treatment at operation.

Facts tell us the hygienic measures are no less important than in the after care of patients discharged, with arrested disease, from a tuberculosis sanitarium.

Drugs are of use not as specific remedies, but as tonics, stomachics, laxatives and the like. Specific anti-sera have not been satisfactorily developed. Non-specific foreign protein reactions have still to be found generally advantageous, though occasionally injections of Coley's mixed toxines have preceded material improvement.

An important question is now attracting more and more attention. Should attempts be made to induce a lymphocytosis? If experience along similar lines in treating acute intoxications by induced leucocytosis be taken as a guide, there can be no doubt. The problems are, however, not identical. Routine stimulation of lymphoblastic tissues by means of tuberculin as advocated by Dabney, by the use of X-ray or electric light as accomplished by Murphy, by ultra-violet rays, or exposure to direct sunlight, may ultimately be found to be more often beneficial than otherwise.

A safe attitude is to avoid everything known to depress lymphoblastic activity as indicated by the lymphocytes in the blood stream, an exception being in the presence of a hyperlymphocytosis. Probably the most serious errors are committed in over-exposure to the X-ray and more particularly to radium. We have seen immediate and some prolonged benefits derived from stimulating lympho-blastic tissues by means of sunlight, X-ray, electric light, tuberculin and in one instance by a slight intercurrent pulmonary tuberculosis. We have also seen harm come from attempts to stimulate tissues that were fatigued.

Benefits bought at the price of increased activity must be paid for later in decreased activity. In a pinch it is justifiable to take big chances. It is very hard to gain much after a patient is dead.

Preceding X-ray treatments or during the course of X-ray treatments, when conditions are critical and there is a tendency to lymphopenia, induced lymphoblastic activity seems to be of value.

Observations must be continued over long periods. Temporary fluctuations are common and comparatively insignificant. It is most difficult not to be unduly influenced by experiences with individuals and by individual experience.

In acute infections, a bacteriemia is now known to be common where it was formerly believed to be rare. In these chronic malign affections there is probably less complete focalization than has been suspected.

At any rate the treatment of these diseases as actual systemic invaders, no matter how recent the development, and how apparent the localizations

can do only good when that treatment must put the individual in the best possible condition. A step farther in the same philosophy, refusing to accept limited systemic invasion as a proof of irrecoverability leads to a more commendable attitude towards individuals in whom disease is more advanced when treatment is begun.

So long as general resistance is good, with the bone marrow and lymphatic tissues still capable of normal function, there is hope, if extirpation of the major portion of diseased tissues is a possibility.

In conclusion, I wish to reiterate previous statements that the blood picture, and particularly the lymphocytic elements therein, is the best single index for estimating general resistance and therefore in controlling treatment. Observations upon the progress of malign affections as influenced by methods of treatment outlined above, have in spite of many failures shown in the few favorable results abundant justification for a growing optimism in the ability of combined therapeutic efforts to prevent, to cure and to alleviate these stubborn diseases.

ETIOLOGY OF BANTI'S DISEASE OR SPLENIC ANEMIA.*

BY H. T. KRISTJANSON, A. B., M. D., F. A. C. S.

The first systematic description of the disease was published by Banti in 1883, under the title of "Anemia Splenica," although he believed the disease a splenic form of pseudoleukemia. This conception was brought out by us in our preliminary report on this work published in The American Medical Journal in 1914. Banti has divided the disease into three stages: in the first, anemia and splenic enlargement are found, the former being secondary to the latter; in the second stage, cirrhosis of the liver commences; and in the third, ascites sets in. Again in 1894, Banti described more fully that form of the disease characterized by enlargement of the spleen with cirrhosis of the liver, and to this stage of the disease subsequent writers have attached the name, Banti's disease. This condition is manifestly only a late stage of the primary splenic enlargement, which in all cases precedes the anemia.

Judging from the latest conception of this disease, we are led to believe that the etiology of Banti's disease is unknown. Bacteriological examinations and animal inoculations have all proved negative. Rolleston believes that the hepatic cirrhosis is secondary to poison formed in the spleen. Chauffard regards the portal vein as formed of two branches—the intestinal and the splenic—either one may convey to the liver poison capable of inducing cirrhosis. Dock and Warthin suggest that the anemia may be caused by an excess in hemolysis occurring in newly formed hemolymph glands. In a later contribution, the same authors ascribe stenosis and calcification of the portal vein as a cause of splenic anemia, although in that same article they make the statement that primary splenic enlargement may depend upon intoxication. Lately Norris and Symmers of New York believe that splenic anemia is due to congenital syphilis and also acquired syphilis. They find the symptom-complex of Banti's disease with cirrhosis of the spleen and liver associated with jaundice, subcutaneous and submucous hemorrhages. They report findings of interstitial splenitis and atrophy of the Malpighian corpuscles. Moschiawitz concludes that Banti's disease or splenic anemia may be caused by syphilis, alcohol or malaria. He cites cases to prove his contention.

Banti believes that in cases of splenic hypertrophy associated with cirrhosis of the liver, the primary disease is of the spleen and the liver enlargement is caused by and is secondary to the diseased spleen. After a most exhaustive and critical study of this disease, Osler reaches the conclusion that from among the conditions with which anemia and enlarged spleen are associated, a well defined disease may be separated, namely, splenic anemia of heretofore unknown etiology. Sippy, after a most careful study of splenic anemia or splenic pseudoleukemia as he terms the disease, thinks that the principle evidence seems to point to primary splenopathy, and he believes that the best proof is the beneficial results obtained after total extirpation of the diseased organ.

The course of the disease and the fibrosis of the organ seem to suggest a chronic intoxication, possibly originating in the spleen. This theory is apparently supported by the great improvement, if not actual cure in some cases, after removal of the spleen. This phase of the subject, however, re-

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*Read before the Surgical Section, State Medical Society of Wisconsin. Milwaukee, October 3d, 1918.

quires a greater scrutiny and more extended study before a final decision can be reached.

In spite of the theories and arguments advanced, there still remains the cause to account for the primary splenic enlargement. We believe that the primary enlargement of the spleen, the anemia and cirrhosis of the liver are all due to a common cause —a form of intoxication or infection.

An opportunity for the etiological study of the disease presented itself in a case admitted to the Milwaukee County Hospital, where the blood was studied before and after splenectomy. The histological study of this spleen confirmed the clinical diagnosis of an early stage of splenic anemia or Banti's disease. The spleen was removed at an operation on May 12, 1914. Immediately after the removal of the organ, implants were placed on freshly prepared blood-agar, Dorsett's egg medium and Loeffler's blood serum, under most careful aseptic conditions. These tubes were then sealed and placed in the incubator for ten days. On the tenth day very small grayish colonies could be seen in close vicinity to the piece of tissue removed from the spleen in one tube. A smear from one of these colonies showed mostly coccoid forms arranged in small irregular clumps; these clumps, however, did not have the characteristic grouping of the staphylococci family. They may occasionally be seen in pairs or even in short chains and in groups of fours. Now and then a short bacillus may be seen. They vary in size and are decidedly pleomorphic. Subcultures were made on fresh blood serum slants. In four days a very slight film-like growth barely visible to the naked eye appeared. Smears from this growth revealed cocci, similar in appearance and size to those observed in the original culture. This microorganism retains the Gram's stain and is non-acid-fast.

In thirty-six hours on plain agar-agar no visible growth can be seen; however, in five days a few grayish colonies appeared on the slant surface. Bouillon remained clear except for slight cloudiness at the bottom of the tube. In litmus milk, for the first two days, no appreciable change was noted, but in older cultures slight color change occurred with increased alkalinity. In glucose agar stab, no visible growth at the end of seven days; on glycerin agar slants film-like growth was noted in thirty-six hours above the water of condensation, spreading quite uniformly from the original point of inoculation. Glycerin agar stabs also show growth along the needle tract, which in the course of a few days showed extension into the surrounding medium. On the fourth day, slight growth could be seen on potato; no liquidation of gelatin. Dorsett's egg medium, glycerin-phosphate-agar and a mixture of equal parts of Dorsett's egg medium and Loeffler's blood serum seemed to be the culture media of choice for growth of this microorganism. Fresh twenty-four hour Dorsett's egg medium brings out clearly the pleomorphic character of this organism. In smears from twenty-four hour cultures we find club shaped and granular rods, large involution forms and short bacilli with polar staining bodies. In older cultures the coccoid forms seem to predominate, yet a fresh transfer of these coccoid forms will give, on suitable culture media, the characteristic pleomorphic organism.

This organism is apparently closely related to, if not identical with the diptheroid bacillus constantly found in frank cases of Hodgkin's disease.

It is not to be expected that an organism, which does not produce an acute disease in the human, would be highly virulent to the ordinary laboratory animals. Intraperitoneal injections of this microorganism into guinea pigs in considerable quantities produced fatal peritonitis in two or three days in two out of three animals inoculated. Pleomorphic organism was recovered in the plastic exudate from the peritoneum.

The effects produced on animals* (dogs) by repeated intravenous inoculations with the organism were marked systemic reactions indicated by rise in temperature and leucocytosis. These experimental inoculations in the dog produced progressive enlargement of the spleen with gradually increased fibrosis and perisplenitis. The histological changes in spleens were quite like those in early Banti's disease. Control animals inoculated under identical conditions with staphylococci, colon bacilli and pseudo-diphtheria bacilli showed no progressive fibrosis of the spleen but had symptoms of general infection from which they succumbed. The change in the blood picture of these control animals was that of leucocytosis, while in the other experimental animals the blood change was that of a type of secondary anemia. In one animal the red count dropped from 11,000,000 to 6,560,000 in 13 months. There was a notable increase in the transitionals and platelets. As a constant feature the experimental animals inoculated with the organisms isolated from the spleen in Banti's disease gave a positive complement-fixa-

tion, using a bacterial antigen and the sheep's hemolytic system.

Conclusions: 1. Repeated inoculations of dogs for a prolonged period produce changes in the spleens, which histologically are identical with changes found in early Banti's disease.

2. Animals injected with staphylococcus pyogenies aureus, bacillus coli communis or bacillus pseudodiphtheriae do not produce fibrous changes in the spleen.

3. Animals inoculated with the microorganism isolated from the spleens of Banti's disease show positive complement-fixation test.

*Careful blood examination was done on all the dogs before any inoculation experiments were started. Histological examination of spleen and liver were also made. The size of the spleen was recorded at the first and all subsequent operations so as to have a definite basis for comparison. Full report of these experiments will appear in a subsequent communication.

BLOOD TRANSFUSION.

BY W. F. LORENZ, M. D.,

MENDOTA.

Blood transfusion as a therapuetic measure is destined to be more widely used in the future. Medical men returning to civil practice will take with them the fruits of their experience in the army. By no means least valuable has been the intensive employment of transfusions everywhere in the military service from the advance zone to the hospital centers in the rear. As a consequence many men have become thoroughly familiar with the technique of transfusion and when indications for its employment arise will proceed without hesitation. Nor is there any likelihood of abusing this therapeutic measure since there are a few if any contraindications.

Previous to the practical application of the discovery of Iso-agglutinins, blood transfusion was not popular and beneficial results were by no means certain. In fact untoward and alarming symptoms were frequently encountered. A few fatal results followed upon blood transfusion; as a consequence this procedure fell into disrepute. The discovery by Landsteiner[1] and Richter, and Shattuck, the latter working independently and arriving at the same conclusions that certain normal serums agglutinated certain normal corpuscles accounted for these accidents. Later largely the work of Hektoen, Ascoli, Descatello and Sturlit with that of Landsteiner showed that all individuals fall into one of four groups according to the behavior of their corpuscles. It was later shown by Ottenberg Von Dungern and Hirschfeld that the grouping to which an individual belonged was inherited and followed strictly the Mendelian law. Furthermore, it was also observed that an individual remained permanently in one group. All these very interesting observations have a practical application as will appear later. The work of these investigators makes possible the use of blood unattended by the hazards formerly encountered. When a transfusion has been decided upon, it therefore becomes imperative that first the grouping of the recipient must be determined. With this information at hand the next step is the selection of a donor. Here again it is imperative that his blood group be known. Furthermore he must be free of syphilis, tuberculosis, malignancy or any disease. A strong, vigorous healthy adult is desired. The donor selected should belong to the same blood group as the recipient.

The designation of blood groups has unfortunately been altered since their discovery. The more widely used and probably more generally known nomenclature is that of Moss. In order to avoid possible error, however, it would be advisable for the present at least if the system of designation were indicated. That is use Moss' name if his method of numbering groups is employed.

Briefly, the groups according to Moss[2] are as follows:

Group I., least prevalent, the corpuscles from this group *are* agglutinated by serum of the other three groups; the serum from Group I. *will not* agglutinate the corpuscles of the other groups. Viewed in another light individuals in this group might be referred to as decidedly selfish. His corpuscles cannot be used by any other group because they are agglutinated by the serum of the other groups. Upon the other hand the group I. individual can receive corpuscles from all others. In other words he can take from all but give to none (excepting his own group).

In contrast to Group I. those comprising Group IV. are most altruistic. Their corpuscles are not agglutinated by any serum. They can give corpuscles to all others, but unfortunately cannot ac-

cept corpuscles from any other group because the serum of Group IV. agglutinates all corpuscles excepting of course those of his own group. He is in position therefore where he can give corpuscles to all but can receive from none but his own group. He can be styled the least selfish.

The remaining two groups, numbers II. and III. are mutually incompatible, that is the serum of one agglutinates the corpuscles of the other. Both enter into the rule already mentioned for Groups I. and IV. The corpuscles of either II. or III. can be given an individual of Group I. (this serum agglutinates no corpuscles) while both II. and III. may receive corpuscles from Group IV. (Group IV. corpuscles are not agglutinated by any serum). Neither corpuscles from Group II. or III. can be enjoyed by Group IV. (Group IV. serum agglutinates all other corpuscles). IV. is consistent, it can give corpuscles to both but cannot receive from either.

In studying these inter-agglutinations it becomes evident that the ideal practice is transfusion within a blood group. Group IV. corpuscles can be transfused into any individual without agglutination of the transfused corpuscles, the rub comes from the serum that accompanies the corpuscles during transfusion. This serum it will be recalled agglutinates all other corpuscles excepting those of its own group, consequently the recipient's corpuscles might to a degree at least be agglutinated by this transfused serum. One avoids all this if the donor and recipient are of the same group. If, however, it is impractical to obtain a donor of the same blood group as the recipient, the selection of Group IV. is permissible. For this reason this group is sometimes referred to as the universal donor. This selection is allowable when conditions do not permit more refined choice, because the transfused corpuscles, (the desired article) are uninjured. The undesirable serum that accompanies these corpuscles is quickly diluted in the recipient's blood stream and probably few of his corpuscles are affected by this transfused serum. As a matter of experience it has been found that untoward symptoms follow agglutination of the introduced corpuscle and less any incompatibility between transfused serum and native corpuscle.

The method of transfusion is also a matter of consideration. Some clinicians still prefer whole blood untouched or unaffected by anti-coagulants. Unfortunately such methods have many obvious disadvantages owing to technical difficulties. Direct vessel anastomosis or canula connection is likewise a difficult job and one of the chief objections to this method is the uncertainty of results, lack of knowledge of amount transfused, dependence upon differences in venous pressure, etc.

Of late years the use of anti-coagulants added to the blood as it is drawn has become the rather generally used method. The advantages are evident: haste is not required; known amounts are transfused. Numerous transfusions can be made into the same blood vessel. Sodium citrate is the anti-coagulant used and the method is rather generally known as the citrate method. Garbat's[3] article (Journal A. M. A., January 4, 1919) gives the present day modifications of Lewisohn's original technique.

A number of reports have appeared on the citrate method, Pemberton[4] used it in over 1,000 cases at the Mayo Clinic. Lewisohn[5] reported over 200 transfusions with citrated blood. During the war in our Field Hospital a large number of transfusions were made by the citrate method. Almost all users of this or any other method of blood transfusion occasionally observe unpleasant reactions. Pemberton[4] noted this in over 20% of his cases. Drinker and Brittingham[6] found these reactions in a still larger number but they concluded from their investigations at the Harvard Medical School that it was not the citrate itself which was objectionable. They found that citrate added to serum alone could be transfused without any reaction. They concluded that it was the cellular content of the transfusion, more especially the platelets that produced toxic reactions. Judging from the experience of many and from reported investigations it would seem that toxic reactions are encountered just as frequently with uncitrated as with citrated blood. Therefore taking into account the simplicity of the technique, the certainty of a successful transfusion, it is maintained that the citrate method is preferable.

The indications for blood transfusion are many and its employment as a therapeutic measure is a matter of clinical judgment. The types of cases in which Lewisohn reports two hundred transfusions might serve somewhat as a guide, though the field of usefulness is far wider than here indicated. Hemophilia. 14 cases, Purpura haemorhagica 16 cases, gastro-intestinal hemorrhage 11 cases, cholemia 5 cases, post-operative haemorrhage 13, haemorrhage from female organs 2, traumatic

hemorrhage 2, pernicious anaemia and leucaemia 24, primary and secondary anaemia 4, pre-operative and post-operative transfusion 35, sepsis 5.

The observation of Shawan[7] while not a matter of blood transfusion is nevertheless closely allied. He found that skin grafts behave according to blood groups, that grafts taken from individuals belonging to the same blood group as the recipient were as successful as auto-grafts.

In judging the type of case that might be benefitted by a blood transfusion, the observation of Ashby[8] must be considered. He found by a very ingenious method that the life of the transfused corpuscles is 30 days or more. Also the work of Huck[9] that the red cell count after transfusion is increased beyond that due to introduced cells and that the haemoglobin was uniformly increased, also out of proportion to the red cell count. He concluded therefore that the result of transfusion was not purely mechanical but that probably the blood forming organs were activated by the transfusion.

In order to assist in promoting blood transfusions the Psychiatric Institute at Mendota will make group determinations whenever requested. I found that the bloods sent in for a Wassermann examination can be used also to determine a blood group. I found that washing the precipitated clot with a small amount of saline will free sufficient corpuscles for a test, that these corpuscles behave similar to freshly drawn blood and furthermore that the serum can be used independently with known corpuscles as a further check.

This work is undertaken by the Institute as a further effort to prevent mental disease. It is a matter of common knowledge that long continued anaemias affect neural structures sooner than other tissues. Sufficient cases are admitted to our state hospitals in which the mental condition can be ascribed to a debilitated physical state, severe anaemia, or a long standing toxaemia, to warrant this assistance.

For those who have sufficient equipment and desire to make their own groups determinations, we will send identified serums.

Others may desire to list a group of prospective donors. For those we will make both Wassermann and group tests on a single specimen. In such cases it is imperative that the technique of blood taking described in our booklet be closely adhered to.

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INFLUENZAL APPENDICITIS (?)

BY LOUIS M. WARFIELD, M. D.,

MILWAUKEE.

There have been articles in the literature within the past few months calling attention to a group of abdominal symptoms which occurred in persons during the influenza epidemic which so closely simulated appendicitis that it was difficult at times to make a correct diagnosis. Hall and Dyas[1] report upon such cases from Camp Logan and also report an increase of true appendicitis, during the influenza epidemic. The rate for an ordinary year was 10.4 per thousand. During November and December, 1918, the rate rose to 44.4 per thousand. J. S. Evans[2] had already reported a definite increase in the incidence of true appendicitis among the students of the University of Wisconsin during epidemics of nasal and tonsillar infections. Villard[3] reports what he calls false appendicitis in influenza. He saw a number of cases among the French soldiers. The men had all been exposed to influenza and the onset was typical of the disease. He saw vomiting in some cases. There was distension of the abdomen and pain throughout, most marked in the right iliac fossa. He thinks, as do others, that the pain is due to swelling of the lymphoid tissue of the appendix. Any disease of acute nature which affects the lymph tissues may produce this pseudo-appendicitis. He thinks that an oper-

ation is not only needless but may be dangerous on account of the effect of the anaesthetic on the air passages.

During the sharp epidemic of influenza at Jefferson Barracks, Mo., in October and November, 1918, there were nineteen persons, male and female, operated upon for appendicitis. Ten of these cases developed typical influenza with pneumonia of the lobular type within twenty-four hours after operation. When the first case was seen it was thought that the pneumonia was probably the not unusual type which follows anesthesia with ether. However, there were at the time differences noted. For example, the respirations were not very rapid, the eyes were suffused, the face flushed. On examination there was only a very small patch of impaired resonance in the interscapular space near the lower angle of the scapula. The breath sounds were faintly tubular over the small area and only over an area sometimes so small as to be covered by the bell of the ordinary stethoscope could a few fine crackling rales be heard.

The diagnosis was most difficult. Cases of uncomplicated influenza show no leucocytosis. In fact there is apt to be leucopenia. Press of work was so great and help so scarce that leucocyte counts were made in only five of the influenza cases. The lowest was 10,400, the highest 18,200, an average of 13,160 leucocytes. In only three of the nine cases of true appendicitis were leucocyte counts made. These were 14,400; 15,200; 12,800. The difference is not striking enough to make the leucocyte count of great value in a differential diagnosis.

It is well known that a beginning right sided lobar pneumonia may present abdominal pain, rigidity of the right rectus muscle with even tenderness in the right iliac fossa. So many mistakes have been made that careful surgeons always demand an examination of the lungs before operating for appendicitis. There is a form of typhoid fever which sets in with symptoms of appendicitis. Typhoid ulcers have been found in the appendix. The symptoms resembling appendicitis have been thought to be due to acute swelling of the lymph glands in and around the appendiceal mesentery. This has been the only condition found in the cases of pseudo-appendicitis which were typhoid fever from the onset. In seven of the cases the initial diagnosis was influenza. In one there was lobar pneumonia at onset. This history is interesting as it shows the simultaneous development of pneumonia and appendicitis in the same patient.

A recruit was admitted to Ward M-4 on Oct. 16, 1918, with fever, cough, and pain in right side extending to the lower quadrant of the abdomen. There was a history of six attacks of what was considered to be appendicitis. He had a recognizable lobar pneumonia of the right lower lobe and there were also tenderness and spasm in the right iliac fossa. The leucocytes were 10,600. On careful consideration it was thought advisable to operate. An inflamed appendix, enlarged, and containing several fecal concretions was removed. He recovered completely and was returned to duty.

One case had a most unusual onset. He was admitted to an influenzal ward with a diagnosis of influenza on Oct. 5th. His symptoms were chills, fever, headache and prostration. Two days later he developed the most profound symptoms of shock. He was cold, almost pulseless, with a rigid abdomen, widely dilated pupils and cyanosis. The lungs showed no evidences of pneumonia. The diagnosis was obscure. Acute pancreatitis was considered. Operation at once was considered imperative. The cecum was found tightly bound down, the appendix was retrocecal, adherent, inflamed with evidences of previous attacks. His condition was improved at the end of operation. He convalesced slowly. On Oct. 12, five days after operation he developed a cough and pain in the chest. He was seen Oct. 14 with a well marked lobar pneumonia of the upper and middle lobes of the right lung. After a long, severe illness he recovered completely.

The Surgical Staff wished to operate on any case diagnosed appendicitis. There were orders from Washington to that effect. The Medical Staff on the other hand felt that those on the ground were better able to judge of the time for operation than those who sat in office chairs at Washington. However, the Medical Staff was keen to see all cases considered, after consultation between the staffs, to be appendicitis operated upon at the earliest moment.

The influenza began to be definitely epidemic on Sept. 28. On Oct. 2 there were several hundred cases. A corporal was admitted that day with pain in the lower right side, chills, nausea, and fever. Appendicitis was diagnosed, operation revealed an inflamed, enlarged, partly gangrenous appendix. He made an uneventful recovery without developing influenza.

Next day, Oct. 3, a recruit was admitted with the diagnosis of influenza. On Oct. 8 he seemed worse, complained of pain in his right side. There were rigidity, spasm and tenderness. Lungs were clear. Leucocytes were 14,800. Operation under local anesthetic was advised and concurred in by surgeons. The appendix was atrophic and bound down by adhesions. He rapidly recovered, had no complications.

This case rather put us on our guard for there certainly were no symptoms referable to the appendix unless they had been of a chronic nature. Realizing that pneumonia simulated appendicitis, we were careful to examine the lungs thoroughly. We were rather rudely jarred when a recruit was admitted Oct. 4 (the next day again) with a diagnosis of "Pneumonia, lobar, right middle". His symptoms were general pain over the abdomen and distension of the intestines. In spite of the pneumonia he was considerd on Oct. 5 to have appendicitis and was operated upon. The appendix was gangrenous and free fluid was found in the abdominal cavity. He finally recovered his health after long illness.

Then on Oct. 6 a recruit was admitted with a diagnosis of appendicitis. This was right in the midst of the influenza epidemic. He had history of severe pain in the right side and cough. He was admitted to the surgical ward and was at once operated upon. The appendix was very slightly inflamed, hardly enough to account for the symptoms. It was also somewhat larger than normal not due to true inflammation. The surgical diagnosis of the gross specimen was chronic catarrhal appendicitis showing that the surgeons did not feel sure that the appendix was wholly to blame for the symptoms. The next day, Oct. 7, the leucocytes were 18,200, the cough was worse, pain in the side was acute and request was made for lung examination. All that was found was a friction rub at the lower angle of the right scapula. No definite pneumonia was made out. On Oct. 12, an X-ray plate was made which revealed small deeply placed areas of consolidation throughout both lungs, more marked at the right base. Signs of pneumonia were then present. He had a long illness complicated by fluid which was found on Nov. 8. The chest was aspirated. He recovered.

Again on Oct. 6 a recruit was admitted with the diagnosis of influenza. On the 10th there were pain, rigidity, tenderness in the right iliac fossa. Appendicitis was diagnosed. At operation the appendix was found adherent to the cecum, congested and inflamed at the proximal end, atrophic at the distal end. On Oct. 11, he still had fever but examination revealed no lung involvement. However, on Oct. 14, there were definite signs of broncho-pneumonia. He also recovered.

We were naturally becoming very cautious in our advice to operate on cases where the symptoms were not absolutely characteristic in spite of the insistence of the surgeons. We felt that there was a syndrome which simulated appendicitis but which was not appendicitis. It was influenza beginning with intestinal symptoms. We had strongly held to this viewpoint and had seen a number of cases come in with abdominal symptoms who shortly developed broncho-pneumonia. We felt justified therefore in holding the cases from operation.

Then on Oct. 19 we were asked to see a nurse, a stocky girl who three days previously had had pain in the right side, nausea, and fever with localization of the pain in the right iliac fossa. This seemed to be a clean-cut case of acute appendicitis, it was concurred in by several and she was that day operated upon. The appendix was inflamed and seemed to be sufficiently diseased to account for the symptoms. However, on Oct. 21 there were not only signs of epidemic influenza but broncho-pneumonia in the left mid-back. This advanced to the base, then to the right mid-lung. She was desperately ill, cyanosed, delirious, and passing urine and feces involuntarily. The case seemed hopeless but she finally became better and eventually recovered perfectly.

Is there a syndrome in epidemic influenza which simulates very closely acute appendicitis? The answer certainly is, "yes". It is not so easily differentiated as might appear from a table of symptoms, thus:

Influenza with Abdominal Onset.	*Acute Appendicitis.*
Onset sudden.	Onset sudden.
Pain not so severe.	Pain severe.
Occurrence during epidemic.	Occurrence at any time.
Pain, nausea (usually not vomiting), fever, may or may not be leucocytosis.	Triad of pain, vomiting, fever with leucocytosis.
Rigidity and spasm not so marked.	Rigidity and spasm.

Tenderness not so acute.	Tenderness acute.
Conjunctivitis.	No conjunctivitis.
Face flushed.	Face not flushed.
Faint cyanosis lips.	No cyanosis lips.

There are no absolute criteria as the histories show. A perfectly typical case of either disease is not apt to mislead one. However, cases are not usually as typical as text book descriptions. We did find a few signs and symptoms helpful in making the differential diagnosis. For example, the facial expression of the influenza patient was a sign of importance. We made fewer mistakes when we learned to know it. The pain was not so severe, there was seldom actual vomiting in influenza. Then it did not seem that the spasm was present even if rigidity were present and the tenderness while present was of the kind which allowed deep palpation if it were done slowly and evenly. We are probably not through with influenza. We expect it in epidemic form this fall and winter. Let us hope we shall be disappointed but let us be on the watch and let us scan our cases of pain in the belly a little more carefully and endeavor to save patients the anesthetic and the knife. As a matter of fact, all of our operated cases recovered although several were desperately ill. That was good fortune. We should scarcely recommend removal of the appendix for influenza.

1. Hall, G. N., and Dyas, F. G., J. A. M. A. 72:726, Mar. 8, 1919.

2. Evans, J. S., Wisc. Med. Journal, 17:91, Aug., 1918.

3. Villard, E., Lyon Medical, 127:534, Dec., 1918.

STRICTLY AMERICAN.

An American Red Cross nurse serving in a French hospital where American wounded had been sent was on duty in her ward when a couple of French nurses arrived in a somewhat excited state.

"Come quickly! The American boy in our ward has something the matter with his leg. Every time we move it he says something, and we cannot understand."

When the nurse arrived at the bedside of the American there were a couple of orderlies, several more French nurses and a convalescent patient or two trying to do something to his leg, which was in a cast.

"What's the matter with it?" asked the nurse.

"Nothing. For the love of Mike, call them off. I only tried to tell them it was comfortable."

THE PROPER MANNER OF SUBMITTING MATERIAL TO A TOXICOLOGIST IN MEDICAL LEGAL CASES.

BY A. S. LOEVENHART,

UNIVERSITY OF WISCONSIN.

During the eleven years that I have occupied the chair of pharmacology and toxicology at the University of Wisconsin, innumerable instances have occurred in which material has been submitted in a manner which precluded proper use of the findings in a court of justice. Failure to comply with the very simple legal requirements may permit the perpetrator of a vile crime to escape justice and leave him free to repeat his act.

In all matters of evidence a court of law insists that the evidence submitted shall have a reasonable degree of trustworthiness. It frequently happens that otherwise perfectly good evidence is rejected by the court because it was obtained under circumstances or is accompanied by conditions which throw a serious doubt upon its trustworthiness and therefore make it unsuitable and unsafe for the consideration of the jury. The likelihood of questioning the trustworthiness of evidence is especially great in the case of material submitted by experts as a result of examinations and tests made in the laboratory. This is due largely to the fact that the toxicologist does not get the material in the first instance and has no control over it until it reaches his hands. What happens to the material between the time that it leaves the body of the victim and the time that it reaches the hands of the expert has the utmost bearing upon the trustworthiness of the evidence which the expert may be able to give. It is extremely important, therefore, that prosecuting officers, physicians, and others who wish to submit material for the consideration of the pharmacologist and toxicologist should take every precaution to see that the material is guarded from any possible source of contamination which might tend to cast doubt upon the trustworthiness of his findings.

The legal requirements are as follows: the material obtained at the autopsy table or otherwise should be so handled as to preclude the possibilities that poison might have been added between the time that it left the hands of the physicians who did the autopsy and the time that it reached the toxicologist. There should be no possibility of the material having been tampered with by any-

one during this interval. All vessels should be washed or finally rinsed by the physician doing the autopsy so that he may take oath on the stand that they were clean. After removal of the material, the containers should be sealed with sealing wax, *using a characteristic seal.* In the absence of any other seal, the thumb print may be used, but a better method is to buy an ordinary letter seal upon which some extra letters or some plain scratches may be made with any sharp instrument. This will give a seal which is characteristic and which can be produced in court. In some cases the container may be tied with cord in such a manner that the ends of the cord pass through the characteristic seal so that it would be impossible to open the vessel without breaking the seal. Under these circumstances the package may be sent by registered mail or by express enclosed in a second wrapping sealed with the express company's seal. However, in a serious case as in the suspected poisoning of a human being, the material should be brought to the toxicologist by a special messenger who can take oath on the stand that the material could not have been tampered with while in his possession. It is decidedly preferable that each person handling the material be available at the trial so that he may be placed on the stand and take oath as to what happened to the material while in his possession.

How useless it is for a toxicologist to work behind locked doors in such cases in order to prevent the malicious sending of material by anyone interested in obtaining a conviction, unless the material is handled properly before it reaches him. It is as much the duty of the physician and toxicologist to protect the innocent against false accusation of poisoning as it is to obtain the conviction of a guilty individual.

It would be impossible to innumerate the number of instances in which material has been submitted in an improper manner. A few instances might be cited. A knife was submitted with red stains upon it with the request that we determine whether the stains were from human blood. The knife was wrapped in a piece of paper and tied with a string. Anyone interested could have placed blood on this knife in transit. A piece of iron piping which was similarly wrapped was submitted with red spots to be tested for human blood. Gastric contents have been received any number of times in an ordinary bottle wrapped in the most ordinary fashion. It would be simply a waste of time on the part of a toxicologist to examine such material. It is only fair to state that where material has been submitted by prosecuting attorneys in many instances, the manner of submitting the material has been equally bad. Since such cases occur at rare intervals in medical practice, one is likely in the excitement of the moment to throw away all opportunity of obtaining a conviction unless he has the matter constantly in mind. It is to avoid such occurrences that this brief recounting of the experience of one toxicologist is submitted for publication.

The same precaution should be used in submitting pathological bacteriological, or other material in medico-legal cases.

"FROM THE LIPS OF THE SAGES."

Listen, my son to the words of the sages that thy after years may not be filled with vain regret and thy troubled conscience rise up and smite thee.

2. Study diligently the writings of the wise men and rest not content in the belief that thou hast encompassed all knowledge.

3. When thou seest one of mature age afflicted with the chicken pox, look carefully that thy eyes do not deceive thee and having looked, question thyself again and again, not four times, but forty and four, for the calamity of mistake hangs heavily near thee.

4. For fools and Pharisees who find joy in the sound of their own voices speak of disease such as we acquire one from another as being sporadic. Put not thy faith in the speakers of vain things. Such diseases do not come like the wind which arises from nowhere and bloweth where it listeth. Where such a disease is found to lie there also, or near unto, will be found a source of its infection.

5. A disease that is known as typhoid cometh at times from evil beings that lurk in the waters of the well, but when this disease cometh be not content in thy belief that the well alone offendeth. From the milk of the cattle of the field and from the flies that light upon thee may also come this dread malady that afflicts mankind.

6. Beware thou of the babblers who speak of membranous croup. They speak vain things and believe themselves secure in the folly of their own words. Diphtheria paradeth under the guise of this thing like the wolf which stalketh forth at night in the guise of a sheep.

7. Let not thy wish overpersuade thy wisdom. Bendeth not to the will of the false prophet. Let not thy purse nor the itching of thy palm guide thee astray into the land of folly.—*Illinois Health News.*

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 504 Goldsmith Building, Milwaukee

Vol. XVIII. September, 1919 No. 4

EDITORIALS

IN THE WAKE OF WAR.

VICTORY MEETING.

THIS is a new world; this is a new era. The medical profession, ever reflecting the spirit of the nation, proud of the splendid record it made during the great world crisis, records itself as abreast of the time. Peace brings with it readjustments and responsibilities no less important than those we have met in the past two years. They call for our most careful consideration and study. They demand conference, the making of definite programs, and then team work, and more team work.

Our men are back, and we find them rebuilt as well as nations. They have returned with broader view, wider grasp, keener mind; as men fully aroused to the responsibilities of life. They have brought back with them a new force, a new vision which has been cleared and refined by the carnage, the chaos, and the suffering of a world at war.

The meeting of the State Society at Milwaukee October first, second, and third is in their honor. Let us all come together at this time to welcome them home, to gain from their experience, to help them solve their problems, and to show that the medical profession of Wisconsin, united as never before, is a new force, aroused to the responsibilities of the reconstruction period, ready to set the pace for achievement, prepared to share the dauntless spirit of America in mastering the world with its broad humanity and its peaceful pursuits.

REPORT OF ARRANGEMENT COMMITTEE.

THE Committee on Arrangements has the following to announce relative to the place of meeting, banquet, exhibits, and the like:

Place—The Auditorium, Fifth and Cedar Streets. Use Fifth Street entrance.

Registration—Kilbourn Hall, main floor of Auditorium building. Please register early.

Banquet—Thursday evening at 6:30 o'clock in the main dining room of the Milwaukee Athletic Club. Procure tickets at the registration desk. The Club is prepared to give much better service than we had in war-time, a year ago.

General Sessions—Juneau Hall, Auditorium.

Surgical Section—Juneau Hall, Auditorium.

Medical Section—Rest Room, main floor, Auditorium.

Eye, Ear, Nose, Throat Section—Committee Room A, second floor Auditorium.

Scientific and Commercial Exhibits—Kilbourn Hall, Auditorium.

No provision has been made by your committee for any sort of entertainment on Wednesday evening, thereby leaving the members free to attend theatres, dinners, or group meetings that may be called for special purposes.

We bespeak your investigation of various scientific exhibits and demonstrations which will be on display in Kilbourn Hall during the meeting.

CHESTER M. ECHOLS,
M. L. HENDERSON,
F. A. THOMPSON,
Arrangement Committee.

GOVERNMENT INSURANCE.

INFORMATION regarding converting government insurance is given elsewhere in this issue of the Journal, together with premium rates and a blank application for conversion. This will be of interest to those of the profession who have seen service. It should be of interest to all physicians as public-spirited citizens.

Thousands of our discharged soldiers and sailors are carelessly allowing their insurance to lapse. Medical men will be quicker than others to realize the importance of encouraging these boys to keep up this insurance and no body of men will have a greater opportunity to be of service in this campaign of education.

BOOKISHNESS.

A COLOR sergeant of colored troops, who had lowered the Stars and Stripes in acknowledgment of a French General's salute, and who was asked by the Major commanding the troops if he did not know that in doing so he was violating the printed rules of the manual, said:

"Yes, sah, Majah, sah, I knows all 'ats in dat book, but Majah, sah, when I sees that lame French giner'l dat all de French soldiers cheers and calls de 'Lion o' France,' bowing low befo' ma flag with de tears of gratitude running down his face, I sez to myself, Majah, sah, 'De man 'at wrote 'at book ain't never foresee no occasion like dishyer one.'"

Would this spirit not help in the practice of medicine.

MOBILIZE FOR PEACE.

THE armistice has been signed, but the Red Cross is waging a war that knows no armistice—a war against disease, unhealthy living conditions, starvation—all the lingering poisons of the past.

The Red Cross asks you to hold fast to the ranks; to carry on in the work of restoration; to keep the faith with the widows and orphans of the heroic millions who died on Europe's Calvary that you might live. Are you going to sign an armistice before *this* war is over?

The Red Cross has never been content with temporary makeshift methods of relief—the work must be well done or not at all, and this work of war relief has only just begun. World-wide distress has followed in the wake of this war. The Red Cross needs workers as never before. It needs *your* heart, *your* brain, *your* hands—could you devote them to a better cause?

THE THIRD RED CROSS ROLL CALL will be held November first to eleventh.

THE GOAL IS TWENTY MILLION MEMBERS.

There is need for the immediate services of one million volunteer workers to enroll them.

ARE YOU READY TO ANSWER THE CALL?

Then sign up for volunteer work at your nearest Red Cross local chapter and

MOBILIZE FOR PEACE.

"ACCEPTED BY THE COUNCIL OF PHARMACY AND CHEMISTRY."

THE Council on Pharmacy and Chemistry of the American Medical Association is a department of our national organization that has not received the plaudits and encomiums of a wildly joyous medical profession nor the grateful praises of the enthusiastic manufacturer of pharmaceuticals. The council seems indeed to be the unloved child of the entire family of subsidiary bodies of the association. Perhaps the reason for this may be found in the character of its duties for the council must expose fraud, sometimes in high places, and protect the physician from being duped by avaricious persons and by persons who are themselves sometimes the victims of their own credulity. It thus happens that the sale of some proprietary article previously held in high esteem by the practitioner proves valueless, perhaps even fraudulent. The practitioner, however, may have credited much of his success in treating certain conditions to that preparation and the maker has had success in accumulating dollars from its sale and both parties emit a loud and vicious roar against the council, because they both lose money. Nobody wants to be "protected" against making money—make it honestly if possible, but make it—but this black sheep among the Councils of the American Medical Association insists on their making their money honestly!

Despite many obstacles thrown into its path, the Council on Pharmacy and Chemistry has

serenely pursued its allotted tasks, corrected its mistakes, improved its methods, and today stands as the only medium to which the honest physician may turn for information—not misinformation—regarding proprietary articles. During the war the council and the chemical laboratory were in close cooperation with the Surgeon-General's Office, testing and investigating every article offered to the government for the treatment of the sick soldiers. The variety and the number of fakish and fraudulent stuff offered to the Surgeon-General was a pitiable exhibit of the mental gymnastics of some people. Just now the council and the laboratory have a new and important field before them, i. e., to protect the physicians against worthless and useless serums, vaccines and synthetics. It will be the council's unpleasant duty to expose the fraudulent and useless among these articles and stamp truth on those found worthy.

We seem to have wandered from the topic in our caption but not so in reality because the burden of our thought is to lend our influence to the spread of the motto of the Advertising Clubs of the World, namely, "Truth in Advertising." It is our purpose to stimulate a larger degree of enthusiasm for the work of the Council on Pharmacy and Chemistry and the Chemical Laboratory, a more generous flow of inquiries concerning articles unfamiliar to the physician, and particularly to urge that the words "accepted by the Council on Pharmacy and Chemistry of the American Medical Association" be printed on the label and on all advertising circulars of proprietary articles that have been admitted to New and Nonofficial Remedies. Then, when pamphlets and circulars are received by physicians they will read the statements of manufacturers with sympathetic understanding and with full confidence in the verity of the declarations. The importance of creating just that sort of receptivity in the mind of the prospective buyer is so well known to the astute publicity expert that it is needless for us to dwell on its advantages. Every proprietary article advertised in our JOURNAL, in *The Journal of the American Medical Association,* and in the other state association journals, as well as in several well edited privately owned journals, does in effect say to the reader that the articles so advertised are accepted by the council because only proprietary articles so accepted are accepted by us. The fact is further acknowledged when these firms are permitted to exhibit their goods at our annual sessions for again the rule is enforced that only proprietary articles which have been approved by the council may be placed on display.

Why not complete the circle of ideas—it would not be a "vicious circle"—by printing on labels, in advertisements and circulars, the words: "Accepted by the Council on Pharmacy and Chemistry"?—*Journal of the Missouri State Medical Assn.*

THE JOURNAL CLINIC

Edited by
L. M WARFIELD, Marquette University
and
J. S. EVANS, University of Wisconsin
(Address all communications direct to the editors)

FROM THE GENITO-URINARY DEPARTMENT OF MARQUETTE DISPENSARY CLINIC.

CLINIC OF DR. JAMES C. SARGENT.

Five cases with similar symptoms but different pathology are reported and discussed.

W. T. Disp. No. 1071.

Male. Married. 70 yrs. Blacksmith.

Complaint: Difficulty in voiding with a constant desire.

Family History: Negative for tuberculosis, cancer, renal or prostatic disease.

Personal History: No confining illnesses. No operation. Worked steadily until eight days ago.

Present Illiness: Patient has had some difficulty in voiding, together with a nycturia of 2 to 3 for some five years but has not considered these evidences of illness.

Eight days ago patient found himself unable to void and was soon in extreme distress. His urine began dribbling away and has continued constantly day and night but, in spite of extreme exertion, never passing in amounts more than a few drops. Sleeps very poorly and eats nearly nothing.

Physical Examination: Elderly man rather virile and husky for his age. Evidently in great distress. Pulse, temperature and respirations normal. Chest negative. Neither kidney palpable. The bladder is felt and percussed extending about an inch above the umbilicus. Knee jerks and pupillary reflexes normal. No Romberg. Arteries relatively soft. Patient is able to force out but a few drops of hazy urine, which was found to contain a trace of albumin, a few r. b. c., a moderate number of w. b. c., and some short thick bacilli (Colon Bacilli).

Prostate per rectum is greatly enlarged, smooth of surface, rather soft in consistency and without stone-hard areas. Vesicles cannot be reached. External genitals negative. No. 24 woven silk catheter with prostatic

tip passes to the bladder with but slight resistance and releases 1410 c. c. of residual urine (all withdrawn by mistake).

A 1 hour intravenous phthalein test gives a function of 5% with but 1 ounce of urine excreted.

Diagnosis: Benign hypertrophy of the prostate.

Treatment: Indwelling urethral catheter for 14 days at the end of which time the total 1 hour renal function had returned to 22% and the general physical improvement was corresponding. A complete transvesical prostatectomy was done (Marquette Surgical Clinic—St. Joseph's Hospital) with the removal of two large lateral lobes and a moderately enlarged middle lobe. The suprapubic tube was removed on the 10th day and the fistula closed on the 26th day. Patient was dischargel from the hospital voiding cloudy urine freely and arising but once in the night. 25 c. c. residual urine was present on examination.

Pathological Report: Adenoma of the Prostate.

DISCUSSION.

This is a very typical case of long standing urinary obstruction due to benign hypertrophy of the prostate and resulting in marked impairment of renal function. There was a gratifying increase in renal function following two weeks of catheter drainage, without which, it is reasonable to presume the patient would have been unable to stand the strain of the operation. The diagnosis was easily made upon the history of long standing hesitancy and frequency finally ending with complete retention except for a slight "over-flow" incontinence,—the age,—and the physical findings.

A. R. Disp. No. 6706.

Male. Single. 62 yrs. Janitor.

Complaint: Difficult urination with frequent desire.

Family History: Unknown.

Personal History: Amputation of left arm following injury 10 yrs. ago.

Genito-Urinary History: Denies Gonorrhea, Syphilis or Chancroid.

Present Illness: About three years ago patient first began having "kidney trouble" evidenced by too frequent urination both day and night. This gradually increased in severity and some hesitancy in voiding together with slight diminution in the size of the urinary stream was soon noticed. In the past few months patient has had to stand several minutes straining before the stream could be started and when it did come it was little more than a dribble. Patient voids every 45 minutes during the day and arises from 6 to 8 times during the night.

There have been no pains about the genitals, pelvis or thighs, no cough, edema or loss of weight and no hematuria, incontinence or passage of stones.

Physical Examination: General examination negative except for the absence of left arm. Temperature, pulse anl breathing normal. Arteries relatively soft. Heart and lungs negative (Male Medical Clinic). Abdomen negative. Neither kidneys nor bladder palpable. Knee, ankle, and pupillary reflexes normal. No Romberg. No areas of skin anesthesia.

External genitals negative. Prostate per rectum is normal in size, shape and consistency. Vesicles not palpable. Urine is voided in a very small, weak stream and then only with much straining. Glasses 1 and 2 crystal clear and chemically and microscopically negative. No. 24 woven silk catheter with prostatic tip passes to the bladder without resistance except a slight "jump" as it enters the bladder. 120 cc. of crystal clear residual urine found.

Cystoscopy: Instrument enters readily and releases 100 cc. of clear residual urine. The interior of the bladder presents a moderate hypertrophic muscular trabeculation of the bladder wall and a single, semi-pedunculated, hypertrophied middle prostatic lobe arising from the mid-dorsal prostatic margin and approximately 1 cm. in all dimensions.

Phenolsulphonephthalein test made by intravenous injection shows a total 1 hour function of 40.%

Diagnosis: Benign hypertrophy of the middle lobe of the prostate.

Treatment: Without preliminary bladder drainage and through a suprapubic incision, the pedunculated lobe was removed (Surgical Clinic—St. Joseph's Hospital).

Drainage was removed on the 10th day and the fistula closed on the 22d day. Patient seen one month later voiding a large stream easily. Urine crystal clear. Voiding every three hours during the day and once at night. No residual urine.

Pathological Report: Adenoma of the middle lobe of the prostate.

DISCUSSION.

This case presents two particularly interesting features. It brings forcibly to notice the necessity of cystoscopic examination of the interior of the bladder of those cases of urinary retention without otherwise demonstrable cause. Much has been written about prostatism sans prostate but a close search of the literature fails to reveal more than a dozen case reports of individuals suffering the typical symptoms of urinary retention but in whom neither a middle-lobe hypertrophy was found by the cystoscope nor any evidence of an early Tabes Dorsalis found in the spinal fluid. Since the advent of the cystoscope and of the Wassermann the differential diagnosis between the various causes of chronic urinary retention has been possible in nearly 100% of the cases.

This case, in contrast to the first case reported, came under observation before much damage by back-pressure had been done to the kidneys. The

low residual urine (uninfected) together with the nearly normal function made immediate prostatectomy easily permissible.

J. K. Disp. No. 6739.

Male. Widower. 44 yrs. Clothes vender.

Complaint: Difficult urination with frequent desire.

Family History: Negative for tuberculosis, cancer, renal or prostatic disease.

Personal History: No illness other than G. U.

G. U. History: Denies Gonorrhea, Syphilis, or Chancroid. Fifteen years ago patient noticed "water was very red" for several days without attending symptoms. This Hematuria (?) has recurred for periods of several days at long intervals since. One and one-half years ago during one of these attacks patient had dull aching in the right costo-vertebral angle, together with frequent urination both day and night. One year ago patient had a single branched pelvic stone removed from the right kidney. No backache or hematuria since.

Present Illness: Since his operation patient has been bothered by a day frequency of every hour and by having to arise in the night 3 to 5 times to void. He has also noticed that the urinary stream is not as large or strong and comes with increasing difficulty.

Physical Examination: General negative except for nephrotomy scar on the right side. The stone is presented for examination. Chest and abdomen negative. Knee, ankle and pupillary reflexes normal. No Romberg. Prostate and vesicles normal. External genitals normal.

Glasses 1 and 2 both cloudy. Urinalysis shows trace of albumin, many w. b. c., few r. b. c., and bacteria.

The urethra refuses the passage of either catheters or sounds. An obstruction at the urethral bulb is apparent.

Diagnosis: Filiform stricture of the bulbous urethra.

Treatment: Gradual dilatation, at first with the filiforms and LaFort followers and later with plain sounds. At the end of two months the urethral caliber was normal, urine was voided easily and freely, the urine was clear except for a few light shreds, and the patient was voiding every three hours by day and once by night.

DISCUSSION.

Except for the rather confusing previous history of renal stone and for the lack of history of gonorrhea, this is a very typical case of urethral stricture. It is inconceivable that the stricture was caused by the renal stone or others that might have been passed. It probably resulted from an old uncured gonorrhea. The advent of urinary infection incident to the renal stone probably accounts for the unusually severe frequency of urination before severe urinary obstruction was noticed.

M. S. Disp. No. 6552.

Male. Married. 42 yrs. Laborer.

Complaint: Difficult urination, weak stream and nocturnal incontinence.

Family History: Negative for tuberculosis, cancer, renal or prostatic disease.

Personal History: No confining illness. No operation. Patient worked until seven months ago.

G. U. History: Single sore on the penis some twenty years ago followed by a prolonged sore throat. No rash. No treatment.

Present Illiness: About seven months ago patient noticed that his urinary stream came with slight difficulty and was weak and small. About this time he also noticed a definite loss of sexual desire as well as an unusual tendency to constipation. The difficulty in voiding grew progressively worse until recently he has been able to pass but a few drops at a time and that with the greatest straining. During the past two months patient has wet the bed consistently. The sexual desire is entirely lost and patient has not experienced an erection for six months. Patient states that at times he has short, quick, shooting pains in the joints. There is never an urgent desire to void.

Physical Examination: General examination negative. Chest negative. Abdomen negative except for a palpable bladder reaching to the umbilicus. Pupils are round, equal and react normally. Knee and ankle reflexes normal. Suggestive Romberg sign. External genitals negative. Prostate and vesicles normal in size and consistency.

There are large areas of anesthesia over the back of the lower legs. (Neurological Clinic).

Patient is able to void but 12c. c. of crystal clear urine by squatting on the floor and straining for several minutes (involuntary defecation). A No. 24 catheter passes easily to the bladder and releases 450 c. c. of clear residual urine.

Cystoscopy: The interior of the bladder is negative except for a notable absence of muscular bands of the bladder wall.

There is no intravesical prostatic enlargement. The internal sphincter is paralized permitting cystoscopic view of the entire posterior urethra.

Laboratory: Blood Wassermann (four plus). Spinal puncture refused. Urine negative.

Diagnosis: Tabes Dorsalis involving upper sacral cord. Bladder palsy.

Treatment: Six injections of arsphenamine and a four months' course of mercury salicylate intramuscularly had apparently no effect on the symptoms.

DISCUSSION.

Bladder palsy with urinary retention is not an infrequent result of Tabes Dorsalis. It, however, is not usual to find it present when so many of the classical physical findings of Tabes are absent. This case is illustrative of the necessity of a thorough study of the spinal cord in those cases of apparent chronic urinary retention without other demonstrable cause. The differential diagnosis of chronic urinary retention is not complete without examination of the knee and pupillary reflexes, of

muscular coordination, and of skin sense. Either the absence of other possible causes of the retention or the presence of any signs indicative of Tabes binds one, as a matter of duty, to an investigation of the blood and spinal fluid in these cases. This is true not only because of the possibility of an otherwise "silent" Tabes being the cause of the retention but because Tabes not infrequently occurs coincidently with prostatic hypertrophy and when such is the case, operative interference with the prostate is notoriously unsatisfactory.

J. M. Disp. No. 8287.

Male. Single. 58 yrs. Marble-worker.

Complaint: Inability to void, with constant desire.

Family History: Negative for tuberculosis, cancer, renal or prostatic diseases.

Personal History: Negative.

G. U. History: Denies Gonorrhea, Syphilis or Chancroid.

Present Illness: With but a few weeks of prodromal stage of nycturia (1 or 2) and slight day frequency. eight months ago patient developed complete retention. The catheter has been used constantly since. For the past few months the urine has been visibly bloody and the catheter passed with greater difficulty. Recently there has been some pain down the back of the left leg. Five pounds in weight have been lost.

Physical Examination: General negative. Chest and abdomen negative. Extremities negative. No enlargement of the ribs or long bones. Knee and pupillary reflexes normal. No Romberg. External genitals negative.

The prostate per rectum is slightly enlarged, of a stone-hard consistency and strongly fixed in position. Both vesicles are densely indurated and matted to the pelvic wall. Along the outer margin of the left vesicle are three enlarged and hard lymph nodes.

Patient is unable to void. He refuses catheterism and cystoscopy.

Diagnosis: Carcinoma of the prostate.

DISCUSSION.

The history of rather sudden onset of severe urinary retention, together with a stone hard gland, indurated vesicles, and enlarged perivesicle lymph glands is sufficient for a diagnosis of inoperable carcinoma of the prostate. Blood in the urine is always a significant urinary sign and in prostatics frequently indicates malignancy. The blood in this case of course may have been traumatic.

GENERAL DISCUSSION.

Chronic retention of urine in an adult male is practically always due to (1) Stricture of the urethra, (2) Hypertrophy of the prostate, (3) Tabes Dorsalis, (4) Carcinoma of the prostate, or (5) Tumor at the vesical neck (middle-lobe hypertrophy or bladder tumor).

In general it may be said that gradually developing difficulty in voiding with frequent desire in a young or middle aged man means stricture; in a man of advanced years means prostatic hypertrophy: that gradually developing difficulty in voiding without a frequent desire in a middle aged man means bladder palsy due to Tabes Dorsalis: and that rather suddenly developing difficulty in voiding (particularly if there is hematuria) in an old man means prostatic cancer.

Urethral stricture is recognized by an obstruction offered the passage of a large instrument through the urethra. Hypertrophy of the prostate is recognized by the cystoscope and by palpation of the enlarged and soft gland per rectum. Carcinoma of the prostate is recognized by the palpation of the stone-hard, and fixed gland with densely indurated vesicles and peri-vesicle lymphatics. Tumors at the neck of the bladder are recognized only through the cystoscope. Tabes Dorsalis with bladder palsy is recognized by neuromuscular findings and examination of the blood and spinal fluid.

The urine is of little or no value in the differentiation of these conditions. In all instances residual urine sooner or later accumulates and all residual urine is constantly apt to become infected giving pus, bacteria and often blood.

GOVERNMENT INSURANCE.

Government insurance can now be converted into one of these new government policies—ordinary (straight) life, twenty payment life, thirty payment life, twenty year endowment, thirty year endowment, and old age (62) endowment.

Government insurance policies contain the total disability clause, making them payable at any time you may become permanently disabled, regardless of age. No policy ordinarily issued by a private company contains a similar clause running beyond the age of 65.

Another advantage of government policies is that the service man, after his return to civil life, may engage in any occupation no matter how hazardous. No physical or medical examination is necessary for the conversion of policies. Government insurance is protected from the claim of creditors. Government insurance is non-assignable, which means that it cannot be lost by the pawning of the insurance policy. Government insurance is not taxable.

Premiums may be paid by the month without having to pay anything extra on account of the additional expense of fore collections. If preferred, it can be paid quarterly, semi-annually, or annually. The government pays all the expenses of running the business.

Following is given the premium rates by the thousand on the new government policies together with a blank application for the conversion of government War Risk Insurance:

PREMIUM RATES PER $1,000 ON THE NEW GOVERNMENT POLICIES.

ANNUAL RATES GOVERNMENT INSURANCE, $1,000.

Age—	16	17	18	19	20	21	22	23
Ordinary Life	$12.52	$12.76	$12.99	$13.23	$13.58	$13.82	$14.18	$14.53
20-Payment Life	19.61	19.85	20.20	20.44	20.79	21.14	21.50	21.85
30-Payment Life	15.59	15.83	16.07	16.30	16.54	16.89	17.13	17.48
20-Year Endowment	38.86	38.98	38.98	38.98	39.10	39.10	39.10	39.22
30-Year Endowment	24.10	24.10	24.22	24.22	24.33	24.33	24.45	24.45
Endowment age 62	15.24	15.59	16.07	16.54	17.01	17.48	18.07	18.66

ANNUAL RATES GOVERNMENT INSURANCE, $1,000.

Age—	24	25	26	27	28	29	30	31
Ordinary Life	$14.88	$15.24	$15.59	$15.95	$16.42	$16.89	$17.36	$17.84
20-Payment Life	22.21	22.56	23.04	23.39	23.86	24.33	24.81	25.28
30-Payment Life	17.84	18.07	18.43	18.78	19.14	19.61	19.96	20.44
20-Year Endowment	39.22	39.34	39.34	39.45	39.45	39.57	39.69	39.81
30-Year Endowment	24.57	24.69	24.81	24.93	25.04	25.16	25.40	25.52
Endowment age 62	19.25	19.85	20.55	21.26	22.09	22.92	23.74	24.69

ANNUAL RATES GOVERNMENT INSURANCE, $1,000.

Age—	32	33	34	35	36	37	38	39
Ordinary Life	$18.31	$18.90	$19.49	$20.08	$20.79	$21.38	$22.33	$22.92
20-Payment Life	25.87	26.34	26.93	27.52	28.11	28.82	29.53	30.24
30-Payment Life	20.91	21.38	21.85	22.44	23.04	23.63	24.22	24.93
20-Year Endowment	39.93	40.05	40.16	40.28	40.52	40.64	40.87	41.11
30-Year Endowment	25.75	25.99	26.22	26.46	26.82	27.17	27.52	27.88
Endowment age 62	25.75	26.82	28.00	29.30	30.71	32.13	33.78	35.56

ANNUAL RATES GOVERNMENT INSURANCE, $1,000.

Age—	40	41	42	43	44	45	46	47
Ordinary Life	$23.74	$24.69	$25.52	$26.58	$27.64	$28.71	$29.89	$31.19
20-Payment Life	30.95	31.78	32.60	33.43	34.38	35.32	36.38	37.56
30-Payment Life	25.63	26.34	27.17	28.11	29.06	30.00	31.19	32.25
20-Year Endowment	41.46	41.70	42.05	42.53	42.88	43.47	43.94	44.65
30-Year Endowment	28.47	28.94	29.53	30.12	30.95	31.66	32.60	33.55
Endowment age 62	37.56	39.69	42.05	44.77	47.72	50.91	54.69	58.83

WAR NOTES

Dr. A. F. Fritchen of Franksville has received his honorable discharge from the medical corps of the U. S. Army.

Captain W. G. Law, formerly of Glidden, has resumed practice at Ashland.

Dr. Robert Eagen of Lone Rock, who was recently discharged from the U. S. service, has been visiting relatives in Muscoda.

Major A. J. Shimek, the first Manitowoc county physician to enlist when the United States entered the war, has arrived in Newport News and is expected at his home in Manitowoc soon.

Lieut. Colonel G. I. Hogue has returned from France, having spent two years in the military service, and has resumed his practice at 410 Jefferson Street, Milwaukee.

Dr. A. W. James of Muscoda returned home recently, having received his discharge from the medical corps. Doctor James was in France somewhat over a year.

Dr. W. F. Grotjan, 2811 North Avenue, Milwaukee, has returned from service with Base Hospital 113 at Sebanay, France.

Lieutenant H. M. Ripley of Kenosha, nephew of Dr. G. H. Ripley, has been spending a short leave at his home and expects to be discharged soon.

Mrs. Brand Starnes recently received word that her husband had sailed for home from France. Lieutenant Starnes has been stationed with Camp Hospital No. 33 as receiving and evacuating officer.

Dr. A. A. Maurer, who served during the war in the army medical corps, has announced that he will resume his local practice in La Crosse.

Dr. H. Sylvester has arrived at his home in Montfort, having received his discharge from the medical corps of the army.

Captain Carl S. Harper of Madison has arrived from France with the Second Division.

Dr. C. O. Fuller of Stratford, who has recently been in the medical corps in France, has located in Polar where he will practice medicine in place of Dr. Westphal who has moved to Arizona on account of poor health.

Dr. W. G. Sexton, who has been stationed at Fort Snelling for several months, has returned home and resumed his connection with the Marshfield Clinic.

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THE KEEPSAKE.

A Red Cross visitor was making his rounds of the soldier patients in an Army Reconstruction Hospital when a colored soldier greeted him with: "Say, boss, what is they keeping me here in this hospital for—a souvenir?"—*From Judge.*

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The Wisconsin Medical Journal, Official Publication

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SOCIETY PROCEEDINGS

FIRST DISTRICT MEDICAL SOCIETY.

The annual meeting of the First District Society was held on Wednesday, August 20, at 2:30 p. m., at the Waukesha County Asylum, and took the form of a reunion meeting after the war.

FOND DU LAC COUNTY

The regular monthly meeting of the Fond du Lac County Medical Society was held August 13, at 6:30 p. m., at the Elks' Club House. Dinner was served to 25 members. After dinner the members were addressed by Mr. Hall, a representative of the Wisconsin Anti-Tuberculosis Association, who described in detail the methods of conducting clinics in the various cities and towns throughout the state and the benefits derived therefrom. Major J. R. Longley of Fond du Lac then gave an address on the medical organizations and the methods of caring for the sick and wounded in Archangel, Russia, where he was stationed during the war. Following the program a business meeting was conducted. The principal feature of the discussion was the standardization of charges for medical services and a schedule of fees was unanimously agreed upon. Doctor Wiley gave a short talk on the necessity for a County Isolation Hospital and a committee was appointed to formulate plans to be presented to the County Board at their next regular meeting. D. N. Walters, M. D., *Secretary.*

LAFAYETTE COUNTY

A meeting of the Lafayette County Medical Society was held at the Court House, Darlington, August 7. The following officers were elected: Mary A. Peebles, president; L. C. McDermott, vice-president; R. B. Quinn, secretary-treasurer.

MANITOWOC—SHEBOYGAN—CALUMET COUNTIES

The Manitowoc, Sheboygan, and Calumet County Medical Societies held a joint meeting at Kiel on the evening of September 4. The scientific part of the program consisted entirely of medical and surgical moving pictures. The wives of the physicians were the guests of the evening. After the program, a reception and buffet luncheon was held at the Blue Gardens.

MARINETTE-FLORENCE COUNTY.

The Marinette-Florence County Society held its regular monthly meeting at the home of Dr. W. J. Boren, Pine Beech, the meeting being held on the lawn. The society was especially favored in having three distinguished guests from Chicago who gave the following program: "Pyelitis in Infants," Dr. Henry Helmholz, of the Infant Welfare League; "The Army Method of Coping with Venereal Disease," Lieut. Col. MacFarland of the U. S. medical corps; "Heart Irregularities," Dr. Greer of the faculty of Rush Medical College.

Pertinent to the discussion of Dr. MacFarland's subject was read correspondence relative to a proposed local venereal campaign, asking this society to lead the movement. Lieut. Col. MacFarland urged the establishment of a prophylactic station which excited much discussion divided in sentiment. Action was deferred pending a proposed visit from a representative of the State Board of Health. Luella E. Axtell, M. D., *Secretary.*

ROCK COUNTY

Fifty Rock County physicians and their wives met at the Beefsteak Club, August 27, in the second of the annual social meetings of the Rock County Medical Society. A beefsteak dinner at 6 o'clock was one of the features of an unusually interesting program as was also an indoor baseball game.

TREMPEALEAU-JACKSON-BUFFALO COUNTY

The third meeting this year of the Trempealeau-Jackson-Buffalo County Medical Society was held at Galesville, August 6. Thirteen members were present which is the largest attendance the society has had for several years. Dr. W. C. McCarty of Rochester, Minn., addressed the meeting on "Practical Points from Experience in Clinical Pathology," touching on goitres, ovarian cysts, gastric ulcers and carcinoma, breast tumors, and neoplasms. At the conclusion of the lecture the meeting adjourned to a downtown restaurant where the Galesville physicians were hosts at an excellent dinner.

C. F. Peterson, M. D., *Secretary.*

NEWS ITEMS AND PERSONALS

Plans are being considered for new buildings at the Union Grove Hospital for the Feeble-Minded and for the Wales Tuberculosis Sanatorium. About $150,000 will be expended by the new state board of control for the installation of boilers at the Home for the Feeble-Minded, Chippewa Falls, Northern Hospital for the Insane at Winnebago, the prison at Waupun, and the Sanatorium at Wales.

The Milwaukee County Board Committee on county and state institutions has recommended to the board that the county give the board of administration authority to establish a downtown dispensary. At present a fund of $30,000 has been laid aside by the county for this purpose. The dispensary will be located on the entire third floor of the Saxe Building, Fifth Street and Grand Avenue.

Dr. C. O. Fuller, who recently returned from service overseas, but whose home has been at Stratford, has located at Polar where he will practice medicine. Doctor Westphal, who had practiced there for a number of years, has located in Arizona on account of poor health.

The initial steps for the erection of a new county hospital, strictly non-sectarian, were taken at a mass meeting of representatives of the various organizations of Outagamie County. The plan is to invite every organization of the county to join in the support of the plan, for there will be no question of denomination.

Dr. H. G. Lampson has left Washburn to locate in Minneapolis where he has been appointed to a position on the State Board of Health of that state.

The preliminary construction work has been begun on the new office building of Dr. J. M. Dodd of Ashland. The building, which will cost $25,000 or more, will be

equipped with seven complete offices, each occupied by a doctor, one of them being a dental office. There will be no partnership but each of the seven will handle the particular line of practice in which he specializes.

Dr. P. T. Trowbridge has removed from Washburn to Hayward where he will take up the practice of his profession.

Hartford is to have a new general hospital, the construction of which has already been started.

Dr. J. T. Speck, formerly of Barnum, Minn., but more recently located in Park Falls with Dr. Urheim, has opened his new offices in the Nordal and Flygt Building.

Dr. Bruno Schallern, who has been practicing medicine in Ripon for the past twenty-eight years, has sold out his business to Dr. W. C. Nason of Chicago. Dr. Schallern will reside at Green Lake with his family for the present.

Dr. E. W. Bedford has removed to Marinette from Sheboygan where he will take up the practice of his profession.

Dr. R. A. Claridge, recently returned from U. S. service in France, has located at Reedsburg. He practiced in Illinois before going into the service.

Dr. and Mrs. J. D. Lindores who removed to Plainfield some months ago have moved back to Stevens Point.

Dr. Wilson, until recently health officer of Racine, has engaged in the private practice of medicine there.

Dr. H. T. Barnes of Pewaukee will locate in Ripon the latter part of September or first part of October.

Dr. F. G. Colter, who has been east for several weeks, has resumed his practice in Marinette.

Dr. H. E. Gillette of Amherst Junction has located in Packwaukee.

Dr. Charles Colebough of Chicago has recently opened practice in Ephraim. Doctor Colebaugh returned from France a short time ago after spending two years in the army.

Dr. E. S. Sullivan who has been stationed at St. Luke's Hospital, New York, has moved to Madison and will be in partnership with Dr. Arthur G. Sullivan, his brother.

Victory Hospital, the new soldier memorial hospital at Stanley, has been opened to receive patients.

Dr. de Nevue of Wyocena has succeeded Dr. Force in his practice at Pardeeville and has taken over the stock of medicines and office supplies. Dr. Force will go to California. Dr. de Nevue for the present will divide his time between Wyocena and Pardeeville.

Major Clarence J. Kenney of Milwaukee, formerly of Cedarburg, has been chosen as epidemiologist by the Milwaukee Health Dept., and immediately took up his duties as such official, which relate to handling of epidemics and contagious diseases.

Dr. Frank H. Russell, Neenah, who has lately returned from the army medical service, has closed his local office and opened one in Weyauwega.

St. Mary's hospital, Watertown, one of the finest hospitals in the state, costing more than $100,000, has recently been opened for business. The building contains over fifty rooms, and in addition to the operating room has a complete X-ray outfit.

"Public Health Center" is the name of the new clinic to be established in Wausau under the direction of the city health workers and federated charities. This clinic is the result of the meeting of the state health workers in this city when Maj. Bellis, M. D., of Milwaukee, pointed the necessity for it.

Dr. Thomas Willett, formerly of West Allis, has been appointed resident physician of Boehne Camp, the Vanderburgh County Tuberculosis Sanatorium in Evansville, Indiana. Dr. Willett served as attendant physician of the Milwaukee Greenfield sanatorium for the period of nearly two years during which the institution was operated by the county. Before resigning from army medical service in which he was one of the first Milwaukee physicians to volunteer, to accept his Indiana appointment, Dr. Willett received the commission of Lieut. Colonel.

Wisconsin will send its usually large delegation of physicians, public health nurses and other public health workers to the Seventh Session of the Mississippi Valley Conference on Tuberculosis which will be held in Des Moines, Iowa, September 22, 23 and 24th. Among Wisconsin representatives on the program will be Dr. Hoyt E. Dearholt, Executive Secretary of the Wisconsin Anti-Tuberculosis Association, who will be chairman of the Monday afternoon meeting and who will also speak at the Tuesday afternoon meeting on the "History of the Red Cross Christmas Seal", Miss Edith Foster who will speak on "Nutrition Classes Plus Case Work Equal Prevention", and Miss Aimee Zillmer who will be one of the speakers on the Modern Health Crusade. Both Miss Foster and Miss Zillmer are members of the staff of the State Anti-Tuberculosis Association.

DEATHS

Dr. G. S. Gunderson died suddenly August 11 as he was returning home to Milwaukee from Knapp in an automobile. He was 31 years of age, and graduated from Marquette Medical College in 1916.

Dr. J. E. Mulholland, formerly of Kenosha, died August 24 at his home in Manitowoc, at the age of 70 years. He was a former member of the Kenosha County and State Medical Societies.

Dr. E. A. MacDonald of Cuba City died at his home August 7, his death being caused by cerebral hemorrhage. He was born in 1851 and graduated from Rush Medical College in 1878. After his graduation, Doctor MacDonald located in Iowa where he practiced for a number of years, then removing to Cuba City where he practiced until the time of his death. He was a member of the Grant County, Wisconsin State, and American Medical Associations.

Dr. Fred J. Lindenschmidt died suddenly in his office in the Cawker Building, Milwaukee, August 18, following a stroke of apoplexy. Doctor Lindenschmidt was 57 years of age and had practiced in Milwaukee for the past 35 years. He graduated from the Northwestern University Medical School in 1883.

Dr. J. C. Alderson died at his home in Wausau of Tubercular Laryngitis, August 17. He was a graduate of the Rush Medical College, class of 1897. Doctor Alderson was a member of the Marathon County, Wisconsin State, and American Medical Associations.

MARRIAGES

Dr. J. E. Boland, Two Rivers, to Miss Ethel Johnson, Two Rivers, at Gesu church, Milwaukee, August 20. They will reside in Chicago.

Dr. Arthur C. Dana, Fond du Lac, to Miss Marguerite C. Mahoney, Fond du Lac, St. Joseph's church, August 27.

PUBLIC HEALTH AND LABORATORIES

MALARIA.

BY W. D. STOVALL,
DIRECTOR STATE HYGIENIC LABORATORY,
MADISON.

In Wisconsin physicians have not, for a long time at least, been concerned about malaria. They have been called to see very few cases, and these were in people who had come in for a short visit from some malarial section.

The situation is changing to some degree. The return of the soldiers from the Mexican border and other foreign territories, which are known to be malarial is bringing into almost every community in the state persons harboring the plasmodium malariae. I am inclined to think that frequently physicians and others look upon these assertions—that the soldiers are bringing new infections home with them—as a rather exaggerated danger. In the case of malaria the danger is not imaginary. Those of us who work in the State Laboratory of Hygiene can see this danger probably better than anybody else. We have an opportunity to know what the condition is in every part of the state. When we began to make positive diagnoses from blood smears received from widely separated points in the state, and from cases living in the central, western, eastern and northern counties, who have not been outside the state, and in some cases only a few miles away from home, we realized that the danger of malaria spreading in this state was real.

The number of cases which we have diagnosed has not been large, but it serves to show what is happening. Eau Claire has at least two cases. Oshkosh has one. Janesville has two, and there are other places where malaria has been found. There have been quite a few communications from physicians describing cases which have had the symptoms of malaria, and which have gotten well under quinin treatment.

To comprehend the danger it is necessary to know that the mosquito which is the intermediate host for the malarial parasite is in Wisconsin. Through the southern part of the state at any rate, Anopheles mosquitoes are abundant. The varieties of mosquitoes found here and sections of the state farther north, I do not know. So far as I know a study of the situation has not been made. At any rate we know that the variety which transmits malaria occurs as far north as Oshkosh. This has been proven by the fact that a resident of that town who has never been away from home has malaria. Knowing then that the mosquitoes are here and that a great many people carrying the parasites are coming into the state, we know that malaria is going to spread unless the carriers are properly treated, and those who become actually sick from this infection are also properly treated.

We can predict what will happen in communities like Madison unless the situation is taken up in time. Madison is an unusual community. Every fall the city is filled with people who come to attend the University. Next fall there will be many young men here who have been in southern training camps, and although the camps have been well protected against malaria some undoubtedly were infected. These men will come to the University as carriers and may so remain without showing any symptoms of the infection for a long time, or until some unusual circumstance precipitates an acute attack. The presence of the carriers and the mosquito means that Madison and vicinity can look forward in the next two or three years to being a malaria infected district. There are many other communities which may also become so infected but the opportunity is not as promising as in Madison.

This brings us to the discussion of what is the proper methods for treating patients suffering from malaria. This necessitates the discussion of the diagnosis, and peculiarities of the disease.

The clinical diagnosis is familiar to all physicians. Not all physicians, however, are familiar with the laboratory diagnosis. I, therefore, am going to discuss only the laboratory diagnosis. The laboratory diagnosis is made by examining properly stained blood smears. These blood smears may be thick or thin. The thick smears are of service particularily in those cases in whom it is expected that the parasites will be relatively few,

and therefore, difficult to find in the thin smear. There are two ways by which a thick smear can be made.

1. Several drops of blood "puddled" with a circular movement of a needle or corner of a slide.

2. Drop of blood may be slightly dragged out over the slide, which represents a thick smear thinned a bit.

The drag smear does not show such a concentration of elements but has several advantages, which are named as follows by Mr. Bruce Mayne in the Public Health reports.

1. The cells and parasites are subject to less destruction, due to quicker drying of the blood.

2. A more uniform spread can be made with a drag smear than with the rotary smear.

3. The action of the acid alcohol in the process of dissolving the hemoglobin is more rapid.

The parasites in the thicker smears are less typical and artifacts are more numerous.

After the smears are made they should be left on a flat surface until dry. Attempts to dry the smears by blowing the breath upon them results in introducing into the smears mouth bacteria, which are troublesome and interfere with the diagnosis.

The thin smears are used in cases showing active symptoms of malaria. It is usually not difficult to find the organisms when the patient is actually sick. The thin smears have the advantage of requiring less technique to stain them and each blood cell may be examined for parasites. The thin smear is a decided advantage for those not familiar with the examination of thick smear.

Thin smears are made just as a smear for a differential blood count is made. A convenient way is to place a small drop of blood in the middle of a slide. The narrow edge of a second slide is dipped into the drop of blood and the slide gently moved until the blood has spread across the width of the slide. Without making any pressure upon the top slide, which is held at about a 45 degree angle, it is drawn the full length of the slide upon which the smear is to be made. If this is carried out properly an even, thin film of blood on the lower slide results. These slides should be allowed to air dry. Care should be taken in mailing slides to see that they are well protected. It hardly seems necessary to make the last remark. We do, however, often receive slides, broken of course, which have been put into the mail with no other wrapper than an ordinary envelope.

After the diagnosis is made what is the proper treatment? Proper treatment does not mean simply giving enough quinin to relieve the symptoms of the patient. It means ridding the patient of every parasite in his body. There is quite a variation in the treatment of clinical cases of malaria. There is still more variation in the treatment to secure complete destruction of all parasites. That is to say, some people will be relieved of all symptoms for a period of months, a year, or even longer, with a short course of quinin, while in others it takes much longer to relieve the symptoms. If disinfection is accomplished, still longer treatment is necessary.

The importance of disinfection is too frequently neglected, and the patient is left with a few parasites lodged somewhere in the body. Some day something happens which reduces the resistance which has retarded the multiplication of these parasites and the patient again develops an acute attack of malaria. This may be occasioned by the patient getting chilled, getting wet, eating too much, or, as reported by one writer, a dose of anti-typhoid vaccine. These relapses are not only more or less harmful to the patient, but during all this time he remains a source of infection for others.

Dr. Bass says his investigation of 3,815 persons in Sunflower County, Mississippi, during 1918, showed that between 50.77 and 68.86 per cent of all persons having attacks of malaria during the year had relapses, and not new infection. He also said that it was shown that by proper disinfection of each patient, malaria can be reduced 90 per cent in ten years.

The clinical symptoms are relieved long before the specific infectious agent disappears. The relief of symptoms and negative microscopic finding in blood smears are no indications that the patient is free from the infectious agent. The only method which can be followed is to continue quinin treatment over the period of time which experience has proven effective in completely destroying all of the organisms. This requires varying length of time in different cases. Dr. Bass says that the duration of proper quinin treatment is the only reliable guide as to when disinfection has been accomplished. Quinin is the only known drug which destroyes the malarial parasite and is capable of disinfecting. It is a very perfect specific. Failure sometimes means that proper dosage has not been given, or that it has not been continued long enough.

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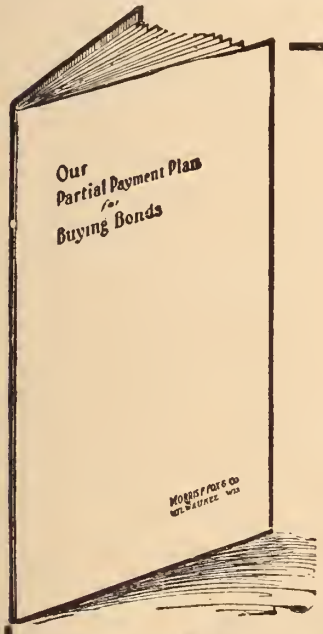

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Persons who have acute attacks should be given 10 grains of quinin sulphite three times a day for three or four days. After that to completely disinfect the patient and to make him secure from future attacks it is necessary to continue for a period of eight weeks the quinin treatment. It is sufficient to give only ten grains a day. It should be given at night. Dr. Bass gives the following dosage as effective for sterilization of the patient: Adults, 10 grains, daily for eight weeks. For children under one year, ½ grain; one year, 1 grain; two years, 2 grains; three and four years, 3 grains; five, six and seven years, 4 grains; eight, nine and ten years, 6 grains; eleven, twelve, thirteen and fourteen years, 8 grains; fifteen years, 10 grains.

As a rule there is no better method to give quinin than by mouth. Once in a while it is necessary to give it intravenous to save life. The intramuscular injection of quinin is extremely painful and unnecessary. The combination of quinin with an acid is a sickening dose and is not necessary, as the acid does not add to the effectiveness of the quinin.

HERALDING THE NEW AGE IN MEDICINE

Medical men will be interested in the purpose of Modern Medicine, a monthly magazine of medical and health progress for physicians and for others interested in administrative, industrial and social health problems, as outlined in the magazine's leading editorial in the first issue. The editors are: Alexander Lambert, M. D., S. S. Goldwater, M. D., and John A. Lapp, LL. D., Managing Editor John A. Lapp, and they state the magazine's policy as follows: The magazine is not merely "one more medical journal." It is rather a pioneer in a new era of medicine; and, while it breaks in no way with the splendid traditions of the profession, its concern is primarily along the lines of thought which will characterize leadership among physicians and surgeons in the new age now upon us.

The new age in medicine—what is it? The answer is that we must think of medicine today as including everything that will make people fit for service. To be fit for service is to be fit to do our individual part; to be fit as a factor physician, mentally, and spiritually in a great nation's progress. It means to be for life. In all the history of the world no such tremendous responsibility was ever before put upon a profession. Are the doctors prepared? Do they hear the call? Are they ready for action?

Let us look a little further. The war made a nation of us. We are an idealistic nation. The whole world trusts our idealism. We are happy, proud of ourselves, and prosperous. Almost over night we have learned that happiness and prosperity live well together; that to be well is the basis of happiness and prosperity, and that, somehow, all have a right to be well, just as soldiers and sailors in military service not only have a right to be well, but must be well in so far as the whole science of medicine, including sanitation, can keep them. Henceforward the practice of medicine in civil life must reckon with this conception.

One outcome of the situation is certain. Either the doctors will meet the new demand with adequate intelligence and force, or changes will be brought about through swift, ill-advised, and perhaps prejudiced legislation. In the former case the profession will rise to even a more honored stratum of society; in the latter case—but let us not talk about that. MODERN MEDICINE believes that the doctors will rise to the need; that they have wisdom and initiative to meet their inescapable responsibilities. MODERN MEDICINE is the clearing house for progress of this sort. Its field is not only the narrow confines of the art and science of medicine, but it has to do also with the application to public welfare of the whole knowledge of medicine and sanitation. MODERN MEDICINE asks the constructive cooperation of the profession in order that its pages be pages of leadership, pages of *finding out* and *learning how* among world problems, which are medical problems, in these rudderless times.

The age in which we live is generous, but it also makes great demands. Industries of every description want their workers happy and productive. Fathers and mothers want the health of their children protected, in school, at play, and at home. They want their own health safeguarded. Municipalities and states are awakening to new conceptions along these lines. Laws are being proposed and enacted. And yet, for the very reason that physicians are devoted to the welfare of their patients, they are not keeping pace with these new demands. They are out of the main social currents, caring for the sick. All honor to men giving such service; but, looking forward, there is big work to do. To help in a worthy fashion is the primary intent in the minds of the editors.

The Wisconsin Medical Journal

Volume XVIII | Milwaukee, October, 1919 | Number 5

ORIGINAL ARTICLES

PRESIDENT'S ADDRESS

SEVENTY-THIRD ANNUAL MEETING OF THE WISCONSIN STATE MEDICAL SOCIETY, OCTOBER 1 TO 3, 1919.

BY D. J. HAYES, M. D.,

MILWAUKEE.

In accepting the Presidency of this Society last year, I said I hoped God might see fit to let us live to celebrate the return of our brave and victorious soldiers at our next annual meeting, and that prayer has been granted.

In behalf of our State Medical Society, I extend to you our heartiest welcome. When you went forth to attend the sick, the suffering and the dying, you went with a pure patriotic spirit, to say nothing of the great sacrifices you made, not only in a business way, but socially. You left friends and family and everything you possessed on this earth.

It may be said that other soldiers made the same sacrifice in the centuries that have rolled by, in defense of their respective countries, but tell me of any other people since the dawn of history who really have made the same sacrifice! Others have battled gallantly, but the enemy was always in sight. You crossed three thousand miles of sea before reaching the battle ground, with treacherous submarines making every mile hazardous, and at any moment might have been sent to a watery grave, without the least opportunity to defend yourselves. Fortunately, only two hundred and thirty-seven of the two million transported over seas were not spared to see the battle ground, and those earliest of our dead heroes to give up their lives in their country's service are said to be now sleeping on the rock coast of Scotland, overlooking the sea, undisturbed by the cares of this world.

To those of our Society, who lost their lives in their country's service, there is no honor too great to offer them. The debt we owe them can never be repaid and should never be forgotten. Let us keep their memories, forever, dear in our hearts. While they are gone forever, we shall ever feel their presence.

When we consider that this war has cost the world about 8,000,000 in lives and $186,750,000,000 in money, and when we further consider that this war was accompanied by one of the greatest pestilential diseases that ever visited mankind, in which 10,000,000 more lost their lives, the only wonder is that the human race has stood it all.

Seldom have great reforms been accomplished or liberty established and maintained, without cementing them with the blood of the people. Let us hope that your sacrifices and sufferings may be rewarded by bringing liberty and happiness to the generations that are to follow.

WISCONSIN IN THE WAR.

It can be truthfully stated that the Medical Profession of the State of Wisconsin has been equal to every emergency in the past and present.

When the Civil War broke out, Wisconsin was fortunate in having at the head of the Medical Department of the State, Dr. Erastus B. Wolcott, a pioneer of the Medical Profession of Wisconsin. Dr. Wolcott served as an assistant surgeon in the United States Army, from which he resigned and settled in practice in Milwaukee, in 1838. He was appointed Surgeon General to the United States Militia in 1842, and occupied the position during the War of the Rebellion. With the single exception of General Dale of Massachusetts, he was the only Surgeon General who served through the entire war. His war record was an enviable one, and after the war he was the leading surgeon in the State and for that matter in the Northwest. He is credited with being the originator of the idea of establishing a soldiers' home in Milwaukee, and made many trips to Washing-

ton in the interest of the National Home. He died in this city in 1880.

SPANISH AMERICAN WAR.

In the Spanish American War of 1898, Wisconsin was again equal to the occasion. Dr. Nicholas Senn, who had been Surgeon General of Wisconsin, had, by enthusiasm and interest in Military Medical affairs, inspired many young medical men with interest and zeal in the study of these problems. He had organized in Wisconsin the National Association of Military Surgeons, and later, when he went to Illinois, continued his interest in the subject, becoming Surgeon General of that State, and during the war was a Colonel and Chief Operator in the field. Largely, through his influence the troops that went from Wisconsin were well provided with experienced and interested medical officers. Dr. Senn died in Chicago in 1910.

GREAT WORLD WAR.

Upon our entry into the Great World War, Wisconsin was again favored by having a Surgeon General, Colonel Gilbert E. Seaman, who had gained experience in the Spanish American War, and who was a trained soldier. We had also, as Medical Officers of our Troops, some of the men who had learned their early lessons from Colonel Senn, as Medical Officers in the Spanish American War. Colonel Seaman was made Chief Surgeon of the 32nd Division, christened "Les Terribles" by General Mangan. He was later Chief Surgeon of the Sixth Army Corps, and participated in all the battles on the Western front in France. He was awarded the Croix de Guerre and was made a member of the Legion of Honor for his meritorious service.

BASE HOSPITAL NO. 22.

An organization well worthy of mention is United States Base Hospital No. 22. The officers were, for the most part, Milwaukee physicians. Lt. Col. C. A. Evans was Director and Surgical Chief; Lt. Col. R. C. Brown was Medical Chief, and Major Ralph Gilchrist was Chief of the Laboratories. It was fully equipped by the patriotic and generous citizens of the City of Milwaukee. It arrived in France June, 1918, and had the equipment and personnel required for a thousand (1,000) bed hospital. Shortly after its arrival in France, its personnel of medical officers and nurses was reduced nearly one-half, yet this Organization cared for five thousand (5,000) patients at one time; with a personnel required for a five hundred (500) bed hospital they managed a five thousand (5,000) bed hospital. To show that they did their work well, it is only necessary to state that during their six months in France, seventeen thousand two hundred and two (17,202) patients were admitted to the hospital, with one hundred and forty-two (142) deaths, twenty-four (24) following surgical and the balance medical treatment. The mortality from pneumonia, complicating the flu, was only nineteen (19) per cent, the lowest in the American Expeditionary Forces. In a letter written after the return of this Organization to the States, Surgeon General Ireland, referring to Base Hospital No. 22, said, "I take this opportunity to express my appreciation of the invaluable services rendered the nation by this splendid organization." And as a further expression of appreciation Lt. Col. C. A. Evans, the Director of the Hospital, was awarded a citation by General Pershing "for exceptionally meritorious and conspicuous services."

The Wisconsin Medical Society and the State of Wisconsin should be proud of Wisconsin's record during the war. It is impossible to even mention the names of the medical officers who went into service—788 members of this Society—from every city and hamlet in the state, and with hardly an exception, rendered the most faithful service—many of them distinguished service.

POST GRADUATE INSTRUCTION.

The greatest problem that confronts the Medical Profession in this country at the present time, is post-graduate instruction. Before the war hundreds of our graduates crossed the seas every year, to Berlin and Vienna, both then justly famed for post-graduate instruction in government owned, equipped and financed institutions. Their attractions were very great, and they were drawing medical graduates from all over the world, before the war. It is quite unnecessary to enumerate the wonderful advantages these post-graduate schools offered, more than to say that they were fully equipped to teach every specialty in medicine and surgery. Why did our doctors make this pilgrimage, at great expense and sacrifice? Simply because there were no graduate schools at home to offer these wonderful advantages, and we can

truthfully say that there are none today. Graduate instruction in this country is hopelessly deficient; it has been left to drift for itself without much guidance or encouragement.

We sorely need in the United States a post-graduate school, well equipped and well financed, capable of giving a thorough course in every specialty in medicine and surgery and completely divorced from the under-graduate schools. In past years all attention has been devoted to under-graduate instruction. Little or nothing has been accomplished for graduate-instruction, and such graduate schools as there are have been drifting along in about the same condition as the under-graduate schools were in fifteen years ago.

Minnesota, Pennsylvania, California, Tulane and Harvard have graduate medical schools. The Journal of the American Medical Association for June, states, that in none of these schools has graduate teaching developed to the extent exemplified in some of the European cities. In this country the students are still compelled to wander from school to school and hospital to hospital to find the course desired. To obtain sufficient clinical material in a desired specialty, the ambitious post-graduate is compelled to seek courses in several institutions, rather than one, and even then finds that courses are held at such times that he cannot register for them, and as a consequence he cannot utilize his time without registering for courses he does not want. The result of his search has been a waste of time, loss of objective and disappointment.

Dr. Bevan, President of the American Medical Association, and father of the Council of Medical Education of the American Medical Association, at the 15th Conference, said of "the matter of creating in this country a plan by which we can develope really trained specialists, in the different medical and surgical specialities," it is "a plan which should receive the approval of the Profession and public—some such plan as the requirement of three years of training in a specialty after a man graduates and has had internship before he can pose as a specialist in any of these subjects."

I presume this means that when a man puts himself forward as having special knowledge in any line of work, he will have to receive a license from a competent board of examiners before he can practice his specialty, the same as is required for under-graduates to practice.

Since the Council of Medical Education of the American Medical Association has been established, the members have devoted most of their efforts to improve the conditions of the under-graduate instruction. They had a Herculean task on their hands, but their efforts have been rewarded by the revolutionizing of under-graduate instruction, so that the standard today is two years of University work after leaving the High School, a four year Medical course and one year as an Internship. It is absolutely useless to advocate a three years' course and a license before proclaiming a specialty, when we have no school in this country to teach such a specialty.

The Medical leaders of London and Paris have shown great activity in establishing graduate instruction in those cities, that are worthy of the name, and are endeavoring to procure co-operation with America. They have already established in London, an Interallied Fellowship in Medicine. They are to provide instructions for the allied officers, who are with the armies in Europe. A program has been adopted, First—calling for a graduate medical association, second—pooling of all hospitals, third—increased privileges to graduate students, fourth—securing co-operation with America and France. They, like ourselves, have depended almost entirely upon Berlin and Vienna in the past.

It is an opportune time for us in this country to recognize our own short-comings and lay the foundation stone for an institution that is worth while, and not depend upon any European country. An ideal graduate school would certainly cost us much money and much hard work.

When under-graduate instruction was provided by private institutions, a number of philanthropists, who were made to see the deplorable condition of these schools, came forward and by their generosity placed under-graduate instruction on a firm basis, and we have partially redeemed ourselves. We cannot reasonably expect philanthropists to equip and maintain a school for research and graduate instruction.

In as much as the Medical Profession of the United States has been first and foremost in every movement for the defense of our country, the psychological moment has now arrived to ask what the United States Government can do for the public in this great work. So far in our history, the United States Government has done absolutely nothing, nor given the least encouragement for

scientific work, and we are far behind European countries in this respect.

What the Government can do for the public is to establish and maintain one school, located in a large city, so equipped with a group of buildings located altogether on one great site, with laboratories for research work, post mortem buildings, and adequate clinical facilities for every specialty of medicine and surgery, so that the student can work from morning until night, in any one specialty, without leaving the grounds, and sufficient funds should be provided that all the professors and assistants will be so well paid that they may devote their entire time and energy to teaching and research work in the school. Teachers in the clinical department might devote part of their time to consultation practice, only. Such a school would certainly give us great prestige.

As conditions are now, the student who desires to take a course for a month or two in any of our large cities, must spend most of his time in wandering from hospital to hospital, on elevated, subways and surface lines, and he finally gives up the chase, footsore, weary, disgusted and disappointed.

We boast of being worth three hundred billions of dollars and at the present time are financing many of the European countries—money for everything—but are not devoting one cent to develop scientific work or to safeguard the health of our people. We believe that the returned medical officers, particularly, and physicians in general, by bringing this matter forcibly before the public and our Representatives in Congress, might be able to induce them to finance this project. Such an institution as is needed would have to be removed from party politics, and not be used as a football to be kicked around by politicians.

THE PERFECT PEACE.

Dr. Lines. who has a keen sense of humor, carried off the anecdotal honors at a recent Chamber of Commerce dinner with the following story:

"At the time of King Edward's recovery from his threatened fatal illness with appendicitis," he said, "thanksgiving services were held all over the kingdom. At one of these the services were to close with the singing of a well-known hymn, which happened to be in the back of the books used in that parish.

" 'Let us close the services,' the pastor said, 'by singing the hymn, "Peace, Perfect Peace"—in the appendix.' " —*Freeport (Ill.) Journal.*

PSYCHONEUROSES AND SURGERY.*

BY HERMAN E. WOLF, M. D.

LA CROSSE.

The subject of mental hygiene is to the average medical practitioner a closed book and its mention arouses little but vague ideas of mental tests or insanity. Few physicians appreciate the importance of training in mental diseases and consequently have but little interest in what they are pleased to call "imaginary ills," owing to a perverted conception of the disease from which these patients are suffering. This feeling has been augmented by the fact that but few medical schools have established adequate courses in psychology and psychiatry and such courses as are taught in our colleges find but little applicability to the physician's needs. Neurologists have often lent to the confusion by indulging in meta-physical speculations and philosophical vagaries and their writings are, to the uninitiated, as undecipherable as Egyptian hieroglyphics. The theory that every phenomenon presented by patients suffering from nervous and mental disorders is of psychogenic origin, has apparently deprived all nervous symptoms of any material basis and added consternation to the surgeon who is constantly dealing with tangible things. To arrive at a better understanding of these conditions we must study the functioning of the body as a whole, as we have been studying the physiology and the pathology of its component parts. This study of the behavior of the reactive and constructive adaptations of the completely integrated organism we designate as psychobiology.

Medicine is no longer a one-man job, we must have teamwork. The man who does not court consultation in a difficult case cares very little for the welfare of his patients and is a menace to the community. However, with the development of different specialties proper correlation of values of symptoms is not always obtained in a given case. The physician, daily observing patients from a single point of view, acquires a narrowed horizon. He has his attention focused on one organ or group of organs, be it the stomach, the kidney, the cardiovascular system or perchance the nervous system, while the symptoms may owe their origin exclusively to the local condition or may be but a part

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*Read before the Surgical Section, State Medical Society of Wisconsin, Milwaukee, October 2d, 1918.

of a much larger symptom-complex. The importance of proper assigning of the symptoms at once becomes patent as not only the diagnosis but also the treatment are dependent upon this. This danger can only be avoided if we keep in touch with all other departments of medicine especially with the neuroses as it is with these that the surgeon most often comes into conflict.

Surgery, during the two last decades, has had a brilliant career. The application of bacteriology to surgical needs has opened avenues hitherto deemed impossible. It has grown to almost undue importance in the field of medicine, making us feel that there are no limitations as to its applicability. In some places it has reached the stage known industrially as quantity production, judging from such quantity reports as, 5,000 operations for ———, making the man with only 100 or 1,000 cases to report feel like a novice. There are several reasons for this. In surgery we deal largely with tangible things, things, that we can feel and see. Likewise the treatment is definite and the results rapid and many physicians with some manual dexterity have found the field attractive. Owing to the exalted position that surgery holds in the mind of the laity, who have been wrongly educated to think that the manual procedure or even minor operations are more wonderful than the most difficult and intricate diagnosis, and the fees they are willing to pay are correspondingly disproportionate. Surgery has therefore come to deal pre-eminently with physical things, things that we can feel and see rather than things that we must become cognant of by other means with a tendency to ignore that which does not assume the physical. Yet you all realize your motor may be beautifully complete as to parts and construction, pleasingly perfect to the eye but if your spark is weak or your ignition is imperfectly timed you will not hit on all four or twelve, be it that you drive a flivver or a Packard.

The nervous diseases known as organic, I will pass by as their symptomatology and pathology are sufficiently well known and definite and do not concern us in this paper. I will speak only of those known as functional or those showing no gross pathological lesions and variously classified as neurasthenia, phychasthenia, hysteria, and hypochondria and characterized as having their foundation in exhaustion, exhaustion plus psychogenic factors, in suggestion or in the purely psychogenic, respectively. Taking a broad psychobiologic view of the matter we may definitely state that it is unnecessary to make this arbitrary classification as on careful analysis we find that all these groups have two important factors in common; 1st, exhaustion, 2nd, suggestion, working as it were through associative memory, the differentiation being simply one of the degrees in which one or the other predominates.

Life is a continual struggle, physical and mental, to adapt itself to the environment in which it is found. Sherrington says "the dominance over environment is a necessity and each individual must be adequately adjusted for this purpose. To a certain extent, this adequacy is a native endowment, transmitted, but with each advancing conflict with evolution of environment, readjustments are necessary. Only by continual modification of its ancestral powers to suit the present, can it fulfill that which is its destiny, if it is to succeed, requires from it as its life's purpose, namely, the extension of its dominance, over its environment." Our psyche must therefore be the sum total of evolution and development of centuries through which we have progressed. Just as ontogenesis, as typified in our embronic development, reveals to us our physical phylogenetic past upon which our present has been constructed so we have a similar evolution of our psyche, with its vague memories of the past upon which it has been constructed. To this psychic past we refer as the unconscious and while apparently forgotten it nevertheless exercises a continuous effect upon our conscious activities. Modern biologic research has stripped that which savors of the occult from these processes. The work of Loeb implies that the mechanisms of instincts are reducible to laws as valid as those of physics; environment can be analyzed into physical and chemical components; while heredity is best explained on a physiological chemical basis. Modern physiologic thought has shown us that the human body is rather a transformer than a generator of energy. Under normal conditions the balance of wear and tear is maintained, but under unusual conditions, be they physical or mental, the delicate balance is lost. There is but a limited amount of potential energy stored in our body and if the change from potential to kinetic energy is rapid the phenomenon presents itself to us as shock; if this change is slow it manifests itself as exhaustion. These stimuli which lead to this con-

version of energy may be physical, somatic or psychic. We are indebted to Freud and his school for our realization that nervous symptoms may be produced by the antagonism of mutually incompatible emotional trends. However the wealth of material at hand, while it proves the saneness of the general principle, goes far to show that the sexual instincts, though the most powerful of all instincts, are not the only ones involved and that many other emotions may produce similar results.

Nor are physical evidences of such changes in our organs wanting. Hodge has shown that marked changes occur in the cells of the brains of rabbits after muscular fatigue as well as after emotional excitement such as fear. Crile and his coworkers have noted changes of various degrees in the cells of the brain, adrenals and the liver produced by divers agencies as physical injury, emotions of fear and worry, infections, excessive muscular exertion, hemorrhage, starvation and insomnia; and further that there is no specifity in the effects of these factors as these changes, arising from any cause whatsoever, seem to be identical.

Gaskell and Langley have shown a double innervation for all our involuntary activities; that each bit of involuntary muscle and each secreting gland is innervated by two sets of neurons. The two sets are reciprocally antagonistic to each other, as we see in the duplex innervation of the heart, first, the autonomic innervation through the vagus, representing the higher mechanism of control which when stimulated slows the heart; second, the sympathetic innervation through the accelerator nerves which when stimulated give rise to unrestrained activity. Similarly we have in the gastro-intestinal tract the vagus action on the one hand and the splanchnics on the other. Normally, a fairly stable balance exists between the two sets of neurons, though temporarily upset, by appropriate stimuli according to our physiologic needs, but under abnormal conditions this balance is lost and we have permanently perverted function. Certain stimuli will pick out one set of fibers and leave the other relatively unaffected. Thus adrenalin stimulates the sympathetic system while other substances, as atropine, effect the autonomic system. That strong emotions leading to exhaustion may produce physical changes by activating the secretions of the endocrine glands or by lessening the inhibition of the cerebral control is entirely possible; the intimate relation that exists between the emotional states and the visceral and vascular innervations has long been appreciated.

Such is the dynamic conception of nervous diseases. By the process Freud calls the mechanism of conversion, psychic emotions are translated into physical equivalents; mental pain becomes neuralgic, mental anxiety becomes cramps and so on. Mental conflict is expressed in disturbance of bodily function. Psychologic conflict is bodily disorder. The symptoms of these disorders may for practical purposes be divided into three levels, namely, psychic, sensorimotor, and somatic or vegetative. The psychic phenomena make themselves manifest in ready exhaustion, incapacity for sustained mental effort, lack of concentration, emotional irritability, diminished self-control, lessened inhibition and susceptibility to suggestion of varying degree; sensorimotor by early fatigue, irritability, increased reflexes, aches and pains and fatigue sensations. Somatic disturbances are many and diverse. Thus we have vasomotor symptoms due to deficiency in innervation such as decrease in vascular tone, lividity and coldness of the extremities, pallor or flushing; diminished inhibition as shown by the tachycardia brought on by slight exertion or emotions; gastrointestinal symptoms such as sensations of weight in the epigastrium, tenderness over part or all of the abdominal viscera, nausea and vomiting, associated with or without colitis, diarrhoea or constipation. Secretory disturbance make themselves known through the dampness of the hands and feet or profuse sweating. Gynecological symptoms may ensue such as disturbance of menstruation, dysmenorrhoea and suppression, all of which may be of a purely psycogenic origin.

Then too witness the painful stigmata which are the most frequent of all phenomena in hysteria, the neuropathy characterized by a pathologic susceptibility to suggestion. These conditions with a psychic foundation alone or with a psychic plus a physical foundation can be multiplied ad finitum. We meet them every day in our practice and are called upon to treat them.

Pain and fear, the two dominant factors in self-preservation, send the patient to the doctors. They come to us with their symptoms and we must determine that which is psychic and that which is physical. Careful history taking and careful examinations, not only of the organs referred to but of the whole body, become of vital importance.

Your objective findings superimposed upon the subjective view of the patient give you your subjective view of the patient. You may find that the patient has a cystic ovary, a fibroid, ptosis of a kidney, a retroflexed uterus and you must fix the relative importance of such findings in the economy of the patient as a causative factor of the symptoms of which he complains. We must admit that much unnecessary surgery has been performed, most of it in good faith, the patients do not recover from their symptoms and the telltale scars remain as damming evidence of unnecessary surgical intervention at which the internist and the neurologist point with derision, they being more fortunate as no such tangible proofs remain as mute reminder of their mistakes.

The following cases are of interest in this discussion:

Case 1. A young man, 25 years of age, has had all the diseases of childhood but no other sickness of any sort. Ten years ago he fell in such manner as to suffer severe contusions of the abdomen. Since then he has complained of dizziness, shortness of breath on slight exertion, pain in the epigastrium, distress after eating, soreness over the abdominal viscera, weakness and irritability. The subjective symptoms were so great that he was unable to work at anything for any length of time. For this trouble he was treated by various physicians, and in the course of such treatment he had removed a part of his thyroid gland, his tonsils, and his appendix. However he has remained unimproved, his subjective symptoms as annoying as ever. He has a slight tachycardia, and a slight hyperacidity, otherwise his objective findings are nil.

Case 2. A woman of small stature, has had two children, aged 10 and 12 years respectively, normal deliveries. Seven years ago developed stomach trouble; distress after eating, sensations of weight and oppression in epigastrium, distention, eructations of gas, heartburn, some abdominal tenderness, constipation, general weakness and headaches. She had her appendix removed with no abatement of symptoms or rather they increased, and nausea and vomiting set in to complicate the picture. Exploratory operation revealed no ulcer and six weeks later a gastro-enterostomy was performed, with no improvement. There was now in addition a marked grade of anemia, considerable loss in weight and nervous irritability. That this was purely psychoneurosis plus exhaustion is shown conclusively by the fact that rest, physical and mental, and over-feeding increased her weight, relieved her gastric symptoms and cured her constipation. She has now been well for two years.

Case 3. Mrs. B., aged 28, married and has 3 children, aged 8, 6, and 4 years respectively. Good family history, was always well until eight years ago, when her oldest child was born. It was an instrumental delivery and she suffered a severe laceration which was not properly repaired at the time. This led to a perineorrhaphy and at the same time hemorrhoids were removed. Prior to this she had developed backache radiating down to her lower extremeties, symptoms of indigestion, soreness in the lower abdomen and general weakness. The operation brought her no relief so her appendix was removed as also a part of the right ovary, again no relief. Several years later the left ovary and tube were sacrificed. The patient now complains of a bad taste in her mouth and vague aches and pains in her extremities for which it has been proposed to remove her tonsils. She says she has become reconciled to her backaches, and her digestive troubles and does not expect relief. She has subjective symptoms of weakness, loss of power of concentration and is unable to do her house work in a consecutive manner. There is further a complete loss of sexual feeling since the beginning of her ailment although her domestic life has been entirely happy.

Case 4. Mrs. H. This case is largely a counterpart of case 3 with the added factor of a turbulent domestic life and conjugal incompatibility. Her trouble also began with a difficult labor followed by a perineorrhaphy, then by an appendectomy and a partial resection of the right ovary and finally some operation on the left ovary all with no relief. She was finally properly examined at one of our celebrated clinics and told that she was not suffering from any disease but from a nervous breakdown and that she must go to a sanitarium for treatment. She followed this illuminating advise by going to a quack institution advertised as a sanitarium and operated by an ex cigar maker and of course got no relief.

Case 5. Farmer aged 25, discharged from the army as suffering from a psychoneurosis. He has had the diseases of childhood but otherwise has al-

ways been well, although of nervous disposition. A year ago he was inducted into the service and sent to camp. He liked the work very much and was promoted to corporal. He was then sent to another camp where he developed tonsillitis and was sent to the hospital where there were many sick and as he describes it "it went through me and I was no good after that." Not yielding to treatment he was discharged and sent home. Improvement began when he had his tonsils removed, complicated by a severe hemorrhage which again vividly portrayed the sick at the camp, and this again brought on the old symptoms of weakness, dizziness, shortness of breath, profuse sweating, abdominal cramps and a feeling as though he had water on the chest.

These cases can be duplicated many times but it does not seem advisable to burden this paper with more case reports, as they are fairly illustrative. They exemplify the somatic, the sensorimotor, and the psychic conditions that I have mentioned. They show the utter futility of surgery in their treatment. Furthermore through their suggestibility they have had their idea of sickness more firmly fixed upon them; through the increased exhaustion attendant upon surgical procedure and its concomitant effect upon their innervation the perversion of their bodily function has been increased. Not only are they not benefitted but many cases are positively made worse. Anatomical restoration does not always mean restoration of function. The surgeon who confines his curative activity to the operating room alone has won only half the battle, he must also bolster up the morale of the patient. It is not necessary that he be a clinical psychologist, or a phychanalyst but a saner view of these conditions will make us more capable and less likely to drive many of these misguided people into obscure cults or into the hands of quacks. It is far from my mind to belittle the benefits of surgery. It is our best therapeutic agent at the present time but we must recognize its limitations and it is truly a wise surgeon who can always avoid the pitfalls of these psychoneuroses.

After all health and happiness means a satisfactory adaptation to our environment. Man in disease comes to us and it is our duty to reeducate and reconstruct, whether we operate or not, the individual to fit such environment and again make him or her a useful member of society.

Dr. Pember, Janesville: I would like to just say a few words. A few years ago I was assistant Physician at the Northern Hospital for the Insane and since that time I have looked at most everybody with more or less suspicion. Now, this is a very interesting paper and I wish I knew more about the nervous part of it. I want to emphasize one thing that the doctor said in his paper, and that is the necessity of a careful history and the necessity of a careful examination, bring to that aid everything that is possible for you to get, to begin at the top of the head, going from there to the eyes, the nose, the throat, chest, the abdomen and extremities, going over every part of the body to bring all the things to bear upon the examination that is possible for you to do. Now we know that there are people who step from one side of the line to the other each day. Sometimes there is a cause for this and sometimes there is absolutely no cause. Two cases in point: When you get a case of indefinite pain you know they go from one doctor to another, and from that doctor to another. One of these cases was like this: A woman who the first part of her life was always in good health; she had no trouble. She developed what all men said was a neurosis. She had indefinite pain and she complained about her pain back here, pointing to right shoulder but nothing could be demonstrated. Finally she got to a man down the line, an old time doctor who has since passed to his reward and he brought her in to Dr. Nuzum, my partner. The doctor looked her all over and he said she is going from bad to worse, let's go in and examine and see what we find. So we went in and found the biggest gall stone I ever saw in my life. He took that out and she commenced to improve, she got better immediately, just as fast as is possible for anybody to improve, and I now can see the old doctor going around with that gall stone in his pocket and saying this is so and so's neurosis. You see, sometimes we make mistakes one way and sometimes another way. Within two weeks I operated on a woman, and the head nurse asked me what I was going to operate for. I told her I thought her head. This is another one that went from one person to another. But anyway, I talked with Doctor Nuzum about it, and he said, "You better operate, if you don't somebody else will; I don't know whether there is anything the matter with her, but we have got to do something. So we made the midline incision and examined every part of her abdomen and we could only find a little ovarian cyst about as large as a hickory nut. I don't expect that woman to be better, I know she won't get any better, but what are you going to do? You have got that operation to back you up, you can say to her absolutely no, there is nothing the matter with you, now if you don't get well you ought to go to an insane asylum. If those cases fall into the hands of honest men it is all right, but when they fall into the hands of men as I call money operators it is all wrong, because we know that a great many people will do everything that we tell them. Another case in point; operated by a man I know to be thoroughly honest, of very long experience in this work. He operated on this case five times and a little while ago she came back and wanted another operation. Now, it is a wise man that can separate the two symptoms, and it is a very hard thing to do. The thing to do is to stand back and do

the best you can for them. If you can find a weak point it is your duty to fix it up. If you have noted evidence of appendicitis why fix it up; if they have bad tonsils it is all right to take them out and things like that, but when you do all these things and you fix them up as far as you can and they come back complaining of indefinite symptoms I just say to them you better get away from this, just believe that you are all right. I have advised hundreds of them to take Christian Science because that is the only thing that will do them any good when they turn their minds upon themselves.

Dr. Joseph F. Smith, Wausau: I am very much interested in this paper by Dr. Wolf and I think that it brings up some very important questions. I do not agree with Dr. Pember that the fact that somebody else will operate on these doubtful cases if you do not, is a sufficient reason for operation. I think there ought to be some reasonably definite connection between the pathology we find and the operation which we propose to undertake. I know of nothing more unfortunate than some of these surgical derelects which travel around the country from one clinic to another, bearing the scars of ill-advised operations. Just recently I had the unfortunate experience of having on my hands a woman who has had varicose veins removed from the leg, later the removal of two of her ribs because she had a pain in the lumbar region, and then later, the removal of one ovary, and still later, an exploratory laparotomy, and her condition is still exactly the same as it was when she started the rounds. I think that we ought to study these cases carefully and if we find definite pathology, then we may have some justification for operating, but just because the patient is going to be operated by somebody else who may be willing to operate on such cases I do not consider a sufficient indication for operation. Then another thing that is unfortunate: Just the other day I had another case that had come back from one of our celebrated clinics. This was a man who had his tonsils removed and had been told that if he had had his tonsils taken out six months before he would not have had spinal osteoarthritis. This man was, at the time he consulted me, running a temperature of a hundred and a half. Examination showed the sputum loaded with tubercle bacilli. As a matter of fact, the tonsils had nothing to do with the throat at any time. The real cause of the trouble was secondary tuberculosis of the spine and not infection from his tonsils. There is nothing that brings us into disrepute more than to perform operations without a definite connection between the pathology we find and the operation we propose to undertake, and unless such definite relation be established it is a great deal better to keep our hands off these cases.

Dr. G. J. Egan, La Crosse: I think that Dr. Wolf has covered this subject very well. He has brought out two things that ought to impress us. First, the advantage of team work, and second, the value of a history. I think that the greatest mistake is made in many cases where the family physician or country doctor brings in a case and gives the history. The surgeon, without any thought at all, takes the doctor's history and goes ahead and performs the operation. Many times that is where the mistake is made. The advantage of team work is that it brings out all points. I believe that the time is coming (and it should be the practice now) when the surgeon will take the history for himself, and not leave it to the interne or to the physician bringing in the case. A thorough and complete history should be taken by the man who is going to do the surgical work.

Dr. D. J. Hayes, Milwaukee: I have been very much interested in Dr. Wolf's valuable and timely paper. When we consider the multiple scars that are often found on the abdomen in this class of cases—scars over the appendix, gall-bladder, in the middle line of the abdomen, and sometimes over the kidney region, we are convinced that a little more diagnostic medicine and less surgery would have been more beneficial for the unfortunate.

Another class of cases that have scars over the region of the stomach made, presumably, for the suspected gastric or duodenal ulcers, when the real cause of the symptoms (gastric crisis) was due to syphilitic infection of the central nervous system.

FOCAL INFECTION.*

BY F. GREGORY CONNELL.

OSHKOSH.

The theory of Focal Infection is not new, Virchow in 1870 discussed the question and demonstrated its occurrence. Benj. Rush, over 100 years ago reported the cure of hip joint disease by removal of a tooth, but the contributions of Billings, Rosneau, Hartzel and others that carried this subject to the peak of popularity were brought out about five years ago.

Of course we all know the absolute inadvisability of passing judgment upon an idea, a theory, or method when presented by its originator or sponsor; judgment must await the accumulation of independent observations, and it would seem that we now have reached a time, five years later, that we might expect to gather data leading to a justifiable conclusion regarding a subject that has been for these years under very close study and observation.

One thing is, of course, certain, that is, the subject was over estimated at the onset, and another thing equally certain is that there is a very great deal of truth in the underlying principles of Focal Infection.

Focal Infection has been looked at as many other

*Read by request before the Wisconsin State Dental Society, Milwaukee, July 8, 1919.

subjects have been during the last decade, from an over specialized view point.

Lack of specialism retarded advancement in medical science for many generations; over specialism has now started in to exercise this same detrimental action upon medical progress.

Ultra specialism may be and probably is most beneficial to all, except the specialist, in the manufacture of an automobile, but ultra specialism in medicine results in a narrow mindedness, a biased view of facts, clinical history and findings that many times leads to incorrect conclusions.

Ultra specialism in a factory or in commercial pursuits, with an authoritative supervising head to regulate and co-ordinate such specialism may be advantageous and perhaps must be imitated in well regulated metropolitan teaching hospitals, but this is radically different from the ordinary specialism as is seen today in the medical and allied professions.

Specialism of a technician under suitable guidance and direction of one who instead of being a specialist, is a generalist will certaintly be more desirable than the present state of affairs.

Independent specialism is worse than none and co-ordinated co-operative specialism is the only manner in which as complex a piece of machinery as the human body may be studied, handled or repaired.

For example: the heart specialist must know about the heart, but also about the thyroid gland, the pneumogastric nerve, the stomach, the so-called rheumatism and the various focal infections that call for a knowledge of all parts of anatomy and physiology and pathology.

Therefore he must be a generalist in order to be a specialist, of course he could become an expert at percussing and outlining the heart and a specialist in that particular, but without his other knowledge this ability to measure the heart will be of little real benefit. Either he must know these other things or he must work with one who does, in order that his speciality be of real worth.

Another example in your work: to expect a man to know about the teeth and not about the antrum of Highmore is as ridiculous as to have one specialist for upper teeth and another for the lower teeth.

If you know about the Antrus of Highmore then you must of necessity know about the nasal cavity and the other accessory sinuses. The teeth and the tongue and the tonsils are so intimately associated that they must be considered together.

With enlargement of the glands of the neck, the teeth, the tonsil and sinuses must be suspected. We must send the patient to different specialists in order to clear up the possibilities of the case. Each specialist alone is of comparatively little value, but co-ordinated they each become invaluable.

The surgeon who removes a tonsil only and is not conversant with the nose, throat, sinus, ears and teeth is as much of a moving manikin as a piece operator in an automobile factory. We must avoid over specialism.

A Focus of Infection is a localized septic condition, a supurative process, with or without local manifestations; that is, a primary source of secondary systemic intoxications or microbic metastases (direct extension to contiguous structures, and extension along normal pathways such as stomach and ear from mouth) are not included.

Whether the secondary manifestation is an intoxication due to a filterable virus or to bacterial metastases is, of course, a *most important* and elemental point which must ultimately be conclusively settled, before therapy for the secondary lesions may be entirely rational. But the first step in therapy, in either event, will be the elimination of the primary source of infection if it is still active.

An *infection* is a morbid state due to the invasion and propagation within the body of pathogenic micro organisms. *Toxemia* denotes a morbid condition produced by the absorption of bacterial toxins.

A distinction, with our present knowledge in this particular subject, of more academic than practical value; but as our information increases will assume more and more importance.

It is not necessary for the production of systemic or remote effects for bacteris to be disseminated from a localized infection; their toxins may be absorbed and the resultant toxemia may exercise a deleterious influence either upon the general system or upon special tissues or organs. In this way the blood, the nervous system, the heart, kidneys, other tissues and organs may be effected. The injuries inflicted upon the nervous system and the heart in diphtheria are striking examples of this toxemia. It has been suggested that toxins are responsible for lowering the powers of resistance of certain tissues and thus preparing the ground for the invasion of these structures by

bacteria in the various forms of Focal Infections.

A most common source of such remote infections is in the mouth and the most frequent cause is streptococcus viridans.

Rosenow and Billings have conclusively shown that such type of infection may be responsible for many remote affections, the relationship of which has hitherto been unsuspected; that secondary effects may be very great and out of proportion to the cause which may seem to be very trivial; and that these organisms may develop an elective or selective affinity for certain tissues or organs; the streptococcus viridans for joints, tendons, aponeurosis, muscles and the endo, peri, or myocardium, and that these streptococci may change in their characteristics after growth on culture media or in animal tissues.

The conditions supposed to regulate this "transmutation of strains," the degree of exposure to oxygen, it is claimed that a streptococcus may become a typical encapsulated pneumococcus or vice versa. This elective affinity and transmutation of strains of bacteria has not been universally accepted and if rejected does not greatly interfere with the theory of Focal Infection.

All of this has brought forcibly to our attention, the subject of chronic diseases and the fact that very many of them are often due to distant, remote, often symptomless, localized areas of infection, which is often situated in the head, but may be in any one or more of many possible locations.

The point that is many times overlooked is that there may be one or more foci of original infection which may produce one or more secondary manifestations and that thorough competent search for the original focus is not carefully carried out.

The following parallel columns should be most prominent in the mind of one considering the possibility of Focal Infection.

A.	B.
Possible source.	Possible secondary result.
Teeth	Anaemia and Pernicious
Tonsil	Lymphadenitis
Nose	Iritis--Keratitis--Choroiditis
Accessory sinuses	
Ear.	Thyroid Hyperplasia
Stomach	Endocarditis, Myocarditis, Pericarditis
Gall bladder	Pleurisy — Pneumonia
Intestine	Peritonitis
Appendix	Liver and gall bladder (diseases of)
Kidney	Stomach—Gastric, duodenal ulcer.
Bladder	Appendicitis
Prostate	Kidney (diseases of)
Urethra	Osteomyelitis, Periostitis
Seminal Vesicles	Bursitis, Synovitis, Athritis
Uterus	Myositis
Tubes	Neuritis, Herpes, Zoster, Chorea, Myelitis, Meningitis, Epilepsy, Insanity
Ovaries.	Asthma, Hay Fever, Urticaria

The facts with which to start a consideration of this subject are found in the above parallel columns and other facts that must be emphasized are:

1. The conditions in column B. are not *of necessity* due to infection from a fucus enumerated in column A.

2. A may exist without B resulting.

3. Patients much reduced from long illness may suffer from a alveolar or other local infection, as a secondary process, in other words, A may be the result of B.

4. Granting the causal relationship between A and B the removal of A will not cause the cure of B, if B has undergone permanent organic changes; if multiple foci exist and only one is corrected; or if secondary foci have developed and are not corrected.

This gives one an idea of the complexity of the subject; but if these elemental facts are kept in mind there will be much better results and less disappointment in the treatment of conditions suspected to be due to Focal Infection.

Time will not permit of a consideration of each of these possible secondary results of localized infection, but a few may be considered in brief. For example:

Pernicious Anaemia is frequently referred to as being secondary to oral infection, but since recent intensive study and experience with this disease it would seem no longer justifiable to so class it. The removal of teeth, tonsils, appendices, gall bladders, and spleens has still left pernicious anaemia a most fatal disease. The improvement

following any or all such removals of possible foci of infection being in all probability due to the occurrence of remissions which characterizes the disease.

Glands of the Neck—Enlarged lymphatic glands are examples of direct extension through the lymphatics to the lymph nodes.

Thyroid hyperplasia must be looked upon as a possible result of mouth infection as long as a definite etiological factor is unknown.

The relationship between localized infection in tonsils and dental regions and diseases of the various structures of the heart has been unquestionably demonstrated, but Blum says:

"The presence of pathogenic bacteria in the mouth and fauces, with subsequent development of endocarditis, is by no means conclusive evidence that the endocarditis originated from these foci and the complete absence of reports of identification in endocardial lesions of the specific bacilli present in the suspected foci constitutes a deplorable breach in the chain of reasoning. That under proper auspices endocarditis can originate from these sources may without question be assumed; but the frequency in childhood of alveolar disease and tonsilitis when contrasted with the rarity of endocarditis justifies the conclusion that such a sequence is certainly exceedingly rare. '(Holt says that in autopsies of more than 1,000 children less than three years of age not a single case of endocarditis was found. Among 1,345,398 school children examined in New York in 1909 1,013 less than 1 per cent, showed cardiac disease).' The assumption that streptococci harbored in the tonsils possess especial selective powers against the endocardium and the joints seem unjustified."

While the more rational sequence, from an anatomical point of view, of head infection followed by Pulmonary or Pleural disease is considered to be less common.

Similarly, the development of disease in the abdomen or the stomach intestines, appendix, liver, etc., are many times not traceable to Foci of Infection when such Foci are present in the head. While diseases of the kidney are many times secondary to teeth, tonsil and sinus disease.

Osteomyelitis is unquestionably a focal infection and likewise the usual periostitis (specific).

By far the most attention has been given to the question of Focal Infection in abnormal conditions of the muscle, joints and nerves, so-called "Rheumatism". In this connection it is advisable to consider a recent communication from the Mayo Clinic in the J. A. M. A. (4,26,19) entitled "Tonsillectomy in Myositis or Arthritis", by Lillie and Lyons.

This is a report of 200 such cases in which tonsillectomy was performed and their conclusions are as follows:

1. It is justifiable to advise a tonsillectomy in every frank case of myositis or arthritis.

2. A marked improvement may be assured from tonsillectomy alone in 79 per cent of all cases.

3. It is necessary to remove all possibility of dental sepsis; by so doing a larger percentage of patients will be improved.

4. The duration of the myositis or arthritis is a factor in the ultimate results, although benefitted and even complete cure is obtained in some long standing, chronic cases.

5. Forty per cent of the patients with chronic myositis who are invalids will respond favorably to tonsillectomy.

6. The size of a tonsil has no bearing on its possibility as a focus of infection. A careful expression of the tonsillar crypts and a history of throat trouble associated with the Myositis or arthritis is essential in the diagnosis.

7. An absence of a history of diseased tonsil in no way eliminates the organ as a focus of infection.

8. A clean tonsillectomy, with the removal of the plica tonsillaris, is necessary in every case.

In this report one misses a definition of myositis and of arthritis, also does one miss a series of control cases in which the tonsils had not been removed, such a comparison would seem to be indicated, because functional disorders have been included in the report as is shown by the statement, "In many instances of long standing painful and enlarged joints, the joints have immediately decreased in size and become useful. We have a number of patients who went to the Hospital for operation using crutches or a cane, who were able to discard them thirty-six hours later."

As a contrast one may refer to the most comprehensive report and analysis of cases by Crowe, Watkins and Rothholz (Johns Hopkins Bulletin

January, 1917) of Johns Hopkins Hospital, entitled, "Relation of Tonsillar and Nasopharyngeal Infections to General Systemic Disorders," in which they divide the Arthritis group as follows: 1, Infectious Arthritis; 2, Myalgia; 3, So-called "Rheumatoid Arthritis"; 4, Acute Rheumatic Fever.

Each of these are defined and they then report: "Infectious Arthritis, of 31 cases, 24 were improved. In four cases of Myalgia all were improved though the authors say, "It might, of course, have cleared up, for all we know, if no operation had been performed." Of nine cases of so-called "Rheumatoid Arthritis" only 2 improved. Four out of twenty-five cases of Acute Rheumatic Fever have had a recurrence after leaving the Hospital." It is quite evident that the tonsils are not the only portal of entry for the organisms that cause Rheumatic Fever.

And the following from Blum:

"Billings reported that Rosenow injected cultures of streptococci obtained from the tonsils into the circulation of animals; Arthritis ensued and the deduction was made that the injected streptococci possessed a characteristic which caused arthritis. The fact seems to be that when bacteria are injected into the circulation arthritis occurs as an incident of the induced septicemia. Arthritis commonly occurs with septicemia. Pyogenic bacteria in general manifest a predilection for the serous and synovial membranes. When, as a result of circulatory invasion by bacteria, morbid processes ensue it is usually the serous and synovial membranes that are effected. Meningitis pleuritis, endocarditis, synovitis occurring in the course of such infections are manifestations of this principle.

"Rheumatism is a name used to designate a symptom-complex, the chief characteristics of which are polyarthritis accompanied by fever and pain, with a tendency to implication of the serous membranes, especially the endocardium. As the science of bacteriology has developed and knowledge in this field has increased gradually there have been eliminated from the earlier group of cases clinically classed as rheumatism special forms which now are designated arthritis of definite types of bacterial infection—for example, gonorrheal arthritis, typhoid arthritis, etc. As knowledge further increases with the passing of time it is to be expected that the group will be still further depleted as other forms of arthritis are recognized, and ultimately rheumatism as a diagnosis will be discarded or accepted as indicating those forms of arthritis of which the etiological microorganism is unknown. At different times since the theory of the bacterial etiology of rheumatism has been accepted various microorganisms have been alleged to be the cause of rheumatism. At present the streptococcus is blamed, but there are numerous types and strains of streptococci and evidence of their exclusive guilt is lacking. That the power of attacking serous and synovial membranes is not limited to the streptococcus is obvious on contemplation of such phenomena caused by various other microorganisms, for example so-called typhoid and gonorrheal rheumatism, tuberculosis, meningitis, arthritis and endocarditis, staphlococcus pleuritis, peritonitis, etc. It seems that the selective morbidity is due not to a single specific microorganism but to lower power of resistance to bacterial aggression possessed by serous and synovial membranes. This explains why in infectious processes lesions of the muscles, bones, nerves and connective tissues, though they do occur are less frequent than lesions of the serous membranes and joints. In childhood secondary foci in the more resistant tissues are commoner than in adults, owing to the comparatively weaker power of resistance of these tissues in childhood. The occurrence of tuberculosis hip-joint disease so frequently after a fall or injury may be explained by this theory. Tubercle bacilli having gained access to the circulation from a focus in the lung or elsewhere and lying in wait for a favorable opportunity, secure a foothold in the hip-joint which as a result of traumatism, offers a locus minoris resistentiae. (The terminal artery theory also may be accurate) similarly may be explained the selection of the knee-joint and ankle in the teamster as most vulnerable to gonorrheal attack, while in the blacksmith the shoulder or elbow is affected by preference. The tonsil appears to have exceptional powers of resistance to focal infectious processes; secondary focal infections of the tonsil are exceedingly rare, though Seawell has called attention to their becoming infected secondarily to pulmonary tuberculosis."

And from Hammand who says:

"In many cases there is a tendency to overestimate the role of these infections in causing more serious diseases. It is difficult to establish the

etiology, as, for example: in a case of chronic arthritis of several years' standing. Dental examination shows several non-vital teeth. The roentgenogram may reveal any degree of change from a slight rarefication of bone to a blind abscess. The teeth have been filled for years and have given no trouble. The joint infection is hematogenous and a certain percentage of dental infections are hematogenous. Why may not both of these infections have resulted from a mild general bacteriemia and have developed coincidentally? Also, if the joint condition came first, why may it not have caused the dental condition? Other infections are quite as likely the cause as those in the mouth. Arthritis cases by no means clear up after mouth infection has been removed.

The relation of the teeth and tonsils to arthritis is at present a moot question. Billings and his followers point to the careful work of Rosenow and others on the bacteriology of arthritis and to the numerous cases of improvement and cure of arthritis following the removal of diseased teeth and tonsils. They believe that this proves the accuracy of their contention that a focus of infection exists in the head in many cases. On the other hand many trained pathologists and reputable clinicians have been unable to reproduce either the laboratory findings or the clinical results of the Chicago workers.

Consequently they either reject the theory as a whole or accept it in a greatly modified form. It is probable that the pendulum has swung too far in the direction of the wholesale removal of teeth and tonsils. The truth will probably be found in a middle ground somewhere between their divergent theories.

The nervous symptoms attributed to focal infection are very numerous and many times are difficult to explain.

"Neuritis" (?) which is usually used as a synonym for "pain" is often attributed to a focal infection is many times a transitory affection and frequently subsides after the removal of a focus of infection, as it frequently does without such removal.

Neuralgia as best exemplified in Tic Doloureux is not influenced by the removal of any known focus of infection.

Owing to the frequent association of chorea with endocarditis and arthritis and the occasional amelioriation of symptoms after tonsillectomy or the extraction of teeth, chorea has received considerable attention in recent discussions of Focal Infection, but as yet the etiological factor or factors in chorea have not been recognized.

So it will be seen that there is a tendency on the part of some to question the adaptability, of this theory of Focal Infections, to some of the conditions to which it has been enthusiastically applied as a causative factor. That it is an active etiological factor, in certain conditions may not, of course, be doubted.

The type of dental or other infections that chiefly concerns us is the obscure latent, or camouflaged as it were, type. The danger of a frank open and above board howling tooth ache or other abscess, both as a local or focal infection is apparent to even the lay or untutored mind. Infections are never entirely localized. As a rule this type of infection does not act as a focus of general infections, because it either gets well or becomes a chronic infection before notable secondary effects are manifest.

The chronic abscess with sinus and "pyorrhea" of the gingiva or the peridental membrane or of the alveolar bone with demonstrable pus, are comprehensible to the average mind. But it is the symptomless tooth with a dental granulomata—or blind abscess, devitalized teeth, dentistried teeth, with imperfect root canal fillings that are many times, the original focus for secondary infections.

These conditions have been likened to chronic osteomyelitis of the structural bone and in this connection I may say that I have yet to see a resultant or apparently resultant distant "neuritis" or "neuralgia" associated with chronic osteomyelitis of the structural bones.

The diagnosis of this class of pathologic conditions of the mouth requires special study and an educated technic.

Like everything else in Medicine proper therapeusis presupposes a correct diagnosis. Which in these peridental infections is not as easy as might be supposed. The removal of the tonsil became a fad, the indiscriminate removal of suspected teeth in some quarters borders on this condition.

One of the most interesting and confusing features of the question of focal infection is the apparent discrepancy between the trivial cause, (tooth or tonsil apparently well and causing no local disturbance) and the very marked effect.

And again, that many vague symytoms, indefinite, shifting not localized, often considered to be

"neurotic" or functional, may be due to a small focus of infection. The only way in which this can be explained is by considering these symptoms to be due to anaphylaxis, allergy, or protein intoxications.

Such symptoms as nervousness, malaise, dizziness, drowsiness, inability to concentrate, inexplainable weakness, prostration after slight mental or physical exertion, slight fever or subnormal temperature, slight tachycardia or bradycardia, and vaso motor instability may follow the parenteral injection of foreign protein.

This may or may not be the correct interpretation of such symptoms, they may be due to abnormal functions of the endocrine glands, but it at least offers a working base from which the problem should be studied to a definite conclusion.

Teeth the source of infection and bridgework and crowns that retain infectious material must be cleaned up or removed. Consultation and team work between the dentist and physician each benefitting from the other's special knowledge is most desirable.

The recognition of dental infection may be easy, if apparent, and should be corrected on general principles with or without secondary symptoms of focal infection.

Foci of infection, notably head and mouth infection, should as a general proposition, be removed or corrected in case of co-incident disease such as lues, tuberculosis, gastro intestinal and genito urinary diseases. Such a correction will many times greatly augment the treatment directed against the more serious disease.

When symptoms present that indicated a focus of infection somewhere the teeth among other possible causes must be suspected, and it is then that the X-ray is invaluable, especially in the blind abscess or dental granulomas following devitalization of teeth.

Such abscesses should be corrected, but it does not necessarily follow that they are the cause or the sole cause of the secondary symptoms.

"The interpretation of dental roentgenograms is full of pitfalls. Unless one is familiar with dental anatomy and pathology and the varying appearance of shadows produced by roentgenograms taken from different angles, serious errors will be made. It is possible to take a roentgenogram from such an angle that an apical abscess is apparently demonstrated. A plate of film made from a slightly different angle will disclose only normal bone surrounding the tooth apex. The reason for this error lies in the fact that at certain angles the shadows of the nasal cavity or antrum may overlie the tooth root and simulate the appearance of an abscess.

The point is, that an apical shadow merely signifies decalcification of bone, from any cause. It may represent a slow change, such as atrophy or absorption from long-continued irritation or pressure; it may mean an acute infective process or it may signify the remains of a former disease-scar tissue. These shadows do not necessarily indicate the presence or absence of pus. This fact can be determined only by a study and correlation of the symptoms and clinical findings."

Thoma well says:

"The development of the Roentgen diagnosis has greatly facilitated examination of the oral tissues, but such a diagnosis should not be entirely relied upon. The application of temperature and electrical tests, as well as the diagnostic use of local anaesthetic, are quite frequently necessary in order to ascertain the exact location and nature of the trouble.

The X-ray is a most valuable adjunct in the diagnosis of peridental infections, but it is not sufficient unto itself, like many other means of diagnosis, it calls for a proper interpretation. I find great difficulty in reading dental roentenograms and I find that there is many times a marked diversity of opinion among those who take the pictures and are more conversant with such interpretation.

I suppose it is not much different from the X-ray work in abdominal surgery; the less one knows about the X-ray, the abdomen, and surgery, the more satisfactory is the demonstration by means of the X-ray, Barium meal examination.

Treatment of focal infections must be both local and general. But the fundamental principle is a thorough removal of the primary focus.

As to the local treatment, that is your specialty and it is not for me to presume to tell you what to do. It is quite evident that different varieties of the conditions call for different methods of procedure. What will be satisfactory for an early gingival pyorrhoea will, of course, not be efficacious in the alveolar type, nor the root abscess.

Some jaw abscesses may be cured by treatment through the tooth's root. Still others by surgical interference and others by extraction.

As to the treatment of a root abscess by other

means than extraction, of course, it is a question of complete enucleation, radical wide excision if this can be done without reinfection of the adjacent parts and with retention of the tooth all and well, but it might be advisable to consider the lesson to be taught by our tonsil experience, anything other than complete removal of the tonsil resulted unsatisfactorily.

Plastic operation upon the alveolar margin aiming at drainage at the bottom of the cavities is theoretically correct, but good results have escaped my detection.

As to curetting the bone cavity after the removal of a tooth with a septic apex, this like everything else, depends as a rule in, acute cases no, in chronic cases, perhaps.

Curettage may cause more damage and render tissue more liable to infection. It is probably similar to curettage of the uterus in gynecology, which is now performed less frequently than in the past.

What to do with devitalized teeth in cases presenting symptoms of focal infection is a dental problem which in all probability will call for extraction in the absence of other incriminating foci until the question of this danger is positively settled which will come in due time with increasing experience.

In all probability the question will in the future be less vital, due to teaching of oral hygiene and prophylaxis and a recognition of the potential dangers of the devitalized tooth with a decrease in its performance and improved technique making it less dangerous where it is carried out.

Billings in speaking of arthritis cases says: "First, removal of cause; second, improvement of the immunity by rest, personal hygiene, including good food, pure air, and sunshine, rational calisthenics and physical culture, moral support and cheerful environment. Antogenous vaccination may be added to still further improve immunity."

"Moral support and cheerful environment" are without question most important and helpful adjuncts in many lines of treatment; but still I know of no diseased condition in which it is recommended but what the result of the treatment is far from satisfactory.

In conclusion I take pleasure in quoting again from Blum:

"The theory of focal infections is by no means new. It has merely been revived and elaborated. Unfortunately attention has recently been concentrated upon certain potential foci of infection to the practical exclusion of others at least equally important. The results are that the subject is being treated in a narrow manner instead of receiving the broad consideration it merits and that diagnosis and treatment are empirically directed within restricted limits instead of considering the potentialities of the entire body. It follows that in cases in which disease is due to an infective focus, avoidable mistakes in locating the focus are frequently made and results of treatment are correspondingly disappointing. Another element in the failure to achieve predicted results is the inclination, a failing of many physicians, that is, to attribute too many ailments to the reigning idea, in this case to focal infections. It should be kept constantly in mind that not all illness is caused by infective foci."

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SO SAY WE ALL.

Though they affirm
A deadly germ
  Lurks in the sweetest kiss.
Let's hope the day
Is far away
  Of antiseptic bliss.
To sterilize
A lady's sighs
  Would simply be outrageous—
I'd much prefer
To humor her
  And let her be contagious!

—*Atlanta Journal.*

SOME OF THE HIGH SPOTS IN THE HISTORY OF ANATOMY:

BY HORACE M. BROWN, M. D.,

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Should I be asked what is my object in putting this article before the profession in printed form I should be at a loss to give an appropriate answer. I suppose every physician has an object in writing a paper for publication. I have none unless it be that I have a hope that this one may draw the attention of some one of my confreres to that part of professional culture that is so much neglected by most of us in the rush of business, or in the time taken for more practical studies. There is nothing that is new in this article, nothing that any of its readers might not find in any of an hundred encyclopaedias, and probably better told in all of them. I have not tried to do more than touch upon the high spots of the subject, leaving the story of the various schools of medicine of the ancient world out of this sketch of the history of anatomy, for they and their varying dogmas have but little to do with the exacter problems of anatomy. I have but touched upon any part of my subject, for I have only wished to point the path toward a most interesting portion of our history, hoping that there may be enough of interest to inspire some of my readers to investigate further for themselves.

This is but a superficial glance at the history of anatomy from the time of Hippocrates to the time of John Hunter and his pupils; a short history of the steps and efforts, which progressing through twenty-two centuries, have given to us, students of an enlightened and liberal age, the result of the labors of all who have preceded us, whose work has been in many instances done in secret, and in fear, both of the law, and of the thunders of religion; work, much of which seems in the light of modern liberalism, and modern facilities for study and investigation, to have been sadly misdirected, and misapplied.

But, for a just estimation of the results of the Anatomical investigations of Hippocrates, and of the deductions of Aristotle, of the imaginary methods of classification of Galen and Praxagoras, and of the jumble of conclusions, all emanating from what we now know to be erroneous premises, we must transport ourselves mentally to the times in which these men lived, and upon consideration of the difficulties with which they were surrounded, we must admit their work seems wonderful, and their courage most worthy of praise.

It has been reasoned by students of Greek literature, that, since Homer in his Iliad mentions so often the various parts of the human organism, he must have been familiar with at least some of the primary principles of Anatomy, and that even in his time the science had been studied, and that certain classifications of the uses and actions of the various organs made. Thus of the death of Elpenor, Homer says:

"Full headlong from the roof the sleeper fell
And snapped the spinal joint, and waked in Hell."

This phrase would seem in the light of modern knowledge to indicate dislocation of the Axis and Atlas—but that there is no existing writing to indicate that in Homer's time, any researches had been made, or classification begun, it would seem that what knowledge then existed, must have been merely superficial, and derived from the appearance of the dead on the field of battle.

Of the Egyptians, and their knowledge of the science, there is but little known, but it is fair to suppose that among the class of parachytides or embalmers, there must have been some who were sufficiently endowed with observative faculties, to have at least in their own minds formed just ideas of the location, and relations of the various parts of the body, but since this class of men were considered to be unclean and despised, outcasts and degraded, and as none of the educated classes would deign to touch a corpse, either human, or that of an animal, it is natural that there has been no legacy of written Anatomical research handed down to us from the "mother of nations." And yet we know that there were among the priestly class of the people of the lower Nile, surgeons and physicians of undoubted skill, as the reunited fractures in the bones of mummies well attest.

The fourth and fifth centuries B. C., produced a series of philosophers and physicians, of the family of the Heraclidae. Seven in number of the name of Hippocrates; the second in the succession seems to have been the greatest thinker, writer, and student among them, and he has been justly called the "Father of Medicine." Of the many books on medical subjects assigned to him, five only are genuine, and from these we learn that he had some exact views upon osteology, but that

aside from this, his conceptions of the structure of the body were exceedingly vague and erroneous. He knew the sutures of the skull, described the relative position of the bones of the trunk, and their connections. He called all the tubes of the body, except the intestine, veins, although he recognized the fact that the arteries after death contained only air. While the windpipe alone was called arteria or airholder. All the tendons, sinews, ligaments, and nerves were called by him "Nerves", which term in the Greek signifies a sinew or tendon. The brain was to him a gland secreting a viscid fluid, the heart a pyramidal gland and muscle, enclosing two cavities, which were called "Fountains of Life." The ventricles and the two auricles are receptacles for air. The kidneys were glands, which by a peculiar attractive power, separated the fluids of the drink, and allowed their passage into the bladder. He divided the bowels into the colon and rectum.

Polybius, 374 B. C., a son-in-law of the great Hippocrates, distinguished himself by his writings on Anatomy, but concerning his knowledge of the science, we are in the dark, as he veiled his wisdom under a mysterious system of superstition, and his name is only associated with the theory taught by him, that the large vessels of the body were of four pairs, the first proceeding by the back of the neck, and spinal cord to the hips and lower extremities. The second consisting of the jugular vessels proceeded to the loins, thighs, hams, and inner ankle. The third arising from the temples proceeded by the neck to the scapular, the lungs and by mutual interosculation to the spleen and kidneys, and finally to the liver and rectum. The fourth from the forepart of the neck to the upper extremities and the abdomen, and the organs of generation.

Following in the footsteps of Polybius, and reiterating his teachings comes Syennesis and Diogenes, the philosopher of Appollonia, of whose work little is known, save what is preserved in the writings of the first exact anamoist, Aristotle, who flourished in the fourth century B. C.

Aristotle the founder of Comparative Anatomy, and the first to write on Zoology, derived his knowledge from an ardent personal application to dissection of animals, and without doubt from time to time had opportunities to examine the position of the organs in the human subject. Patronized by Phillip of Macedon, he was placed in a position to take advantage of any, and all opportunities for observation, and to him, modern anatomists are indebted for the first systematic classification, and division of the various branches of anatomy. Although Hippocrates had caused a skeleton of brass to be cast, and had it erected in the temple of the Delphian Appollo, as a visible proof of his acquirements, he knew but little of true osteology; it is to Aristotle, and his writings that we owe our first introduction to anything like exact, and definite demonstration of the facts of the science, and in all instances where he trusted to his own observation, we find these facts shown in almost the same light as that with which they are viewed today, while in the parts of his work, in which he trusted to the observations of others, he is oftentimes ridicuously in error. He corrected the errors of Polybius and Syennesis, and described the aorta, being the first to use that term; differentiating its structure from that of the veins. He however became lost in imaginary suppositions as to the use of the vena cava, and the pulmonary vessels, and described the brain as being dry and bloodless, while the lungs were to him structures filled with blood. He correctly describes the distribution of the aorta, although he omits the coeliac axis, and some of the smaller vessels of the abdominal cavity, and in describing the kidneys and their pelves, makes the ureters branches of the aorta and renal arteries. He made the nerves, which to him were ligaments, arise from the heart, which he had noted as containing many; and continuing his confusion, describes the bones as bound together by them.

He differentiated the windpipe from the oesophagus, and described the heart as the organ of the blood vessels, yet he knew nothing of the circular motion of the blood, and fell into the error of supposing the left ventricle to be a holder of the "spirit". He correctly described the liver, spleen, and whole alimentary canal, the diaphragm, and divided the intestine into the jejunum, ileum, coecum, sigmoid flexure, and rectum.

Passing over the names of Praxagoras of Cos, and Diocles of Carystus, the former being the last of the descendants of Aesculapius, we come to the philosophers of the Alexandrian school, where the Greeks in Egypt, kept alive the flame of science, and where we have the first recorded dissections of the human body, often while the subject was yet alive, by Herophilus and Erasistratus, of whom but little else is known. Yet from the works of Galen we find that Erasistratus first described the

valves of the heart, and gave to them the names Sigmoid and Tricuspid, and that he first described the nerves as issuing from the brain, which organ he describes at some length.

Of Herophilus we learn that he first described the first portion of the intestine, and called it "Duodekedaktylos," or twelve fingers breadth, he recognized the difference in the uses of the pulmonary vessels, called the pulmonary artery an arterious vein, and distinguished the difference between the nerves of sensation and motion.

For three hundred years anatomy made but little progress, the fame of the two last mentioned writers having eclipsed that of all others, until in the year 44 B. C., we find Cicero the Orator in Rome, describing the blood as being carried through the body by the veins, and the arteries as being the organs for the transmission of air to the various parts of the body.

About the same time Aretaeus described the capillary connection between the portal vein and the vena cava:

In the beginning of the first century A. D., appeared the works of Celsus, a physician, whose writings are perhaps the depository of more knowledge of anatomy, as it is understood today, than are any before or following him up to the time of Andreas Vesalius. Celsus dissected the human body, and examined the bodies of gladiators before and after death. He knew the windpipe, oesphagus, stomach, and diaphragm. He however ignores the existence of the duodenum, and describes the stomach as connecting directly with the jejunum. He endeavored to demonstrate the nature of hernia, but the ignorance of the time prevented him from giving a clean account of the nature of the deformity. In his work on obstetrics, he describes correctly the vagina and uterus, in a manner not contemptible, and his description of the vertebrae, ribs, the sutures of the skull, and some of the foramina of the cranium, are proofs positive of his clear-sighted research. He first described the carpal and metacarpal bones, the radius, and ulna, and the ethmoid, and mastoid sinuses; while his description of the external auditory canal is just and correct.

Following Celsus at Rome, we next come to Marinus, of whom little is known, except that he was the first to attempt the description of the muscles. Contemporaneous with him was Ruffus of Ephesus, who first demonstrated the tortuous course of the uterine vessels, and noted the existence of the fallopian tubes.

About the 130th year of the Christian era was born Claudius Galenus, called by moderns Galen, a mathematician and astronomer, but particularly a physician, and follower of the school of Aristotle. To his writings we owe our knowledge of the men who had been famous before him, and in him we find the sum of all anatomical knowledge up to his time. His osteology is almost the osteology of today, and to his researches is due our first knowledge of arthrology. Considering the limited advantages for anatomical research possessed by students of his time, and noting the prevalence of ignorance, superstition, and romantic Theism, the results of the investigations of Galen are remarkable, and the more so that for nearly twelve hundred years his teachings were unquestioned and accepted with all their errors, by students and professors of anatomy, throughout the civilized world. Let us glance a moment at the facts known and taught by Galen, and then pass to the Arabian school of Physicians. Galen was the first to divide the vertebrae into cervical, dorsal and lumbar. The first to attempt a description of the sphenoid bone, that stumbling block of the student today. The first to describe the bones of the face, and to give them the names, which they now bear, although he called the malar, the Zygomatic bone. He described the muscles of the eye, neck and nose, the eyelid, and lower jaw, the windpipe and scapula, giving them the names, which today are in use. It is only in regard to the description of the more minute muscles, that he is excelled by the modern writers, he named the muscles of the lower extremities, forearm and trunk. He first discovered the fact that the arteries were blood, as well as air vessels, although he failed to note the difference of direction of the blood in the arteries, and that in the veins, and hence did not discover the circulation of the blood. While somewhat confused by the pulmonary artery, he yet assigned to the left ventricle the emanating point for all the arteries, and traced the branches of the aorta with great accuracy. He first describes the vena azygos, and the jugular vessels, but in a manner full of errors. He assigned to the brain the origin of the nerves of sensation, and to the spinal column the roots of the motor nervous system, a statement not absolutely devoid of truth. His description of the brain is quite correct as far as it goes, and many names which

he applied to the various parts are used today. His minute description of the method of demonstration of the brain may be followed to advantage in every dissecting room. His description of the thoracic viscera is accurate and clear, and he had just ideas in regard to the serous cavities of the pleura and pericardium, while he is the first to note the bony ring found in the heart of the horse, elephant and other large animals.

Following Galen, we find two anatomists who have left their names as landmarks on the rocky road of anatomical research. First Soranus, an Ephesian, who examined and correctly described the female organs of generation, and second, Oribasus whose work on the salivary glands gained him a place in the exact school of Anatomists.

During the interval of literary and scientific darkness, which existed from the second to the thirteenth centuries A. D., in Christian Europe, there are no names famous in the study of medicine, to attract our attention, but among the people of southern Asia, among the Arabs or Saracens is seen arising a class of men, not famous for exact scientific work in medicine, but of great learning and deducing from circumstantial evidence many facts in anatomy and surgery, which the laws of the Mohammedan religion forbade them actually to demonstrate. While Christian Europe slept, among the Saracens, such men as Abu-Bekr, Avicenna, Abulcasis, and Averrhoes, kept alive the sacred flame of learning, and preserved to us, in the Arabic translations, the works of many men who in Greece and Rome had labored with and before Galen, and finally with the awakening of learning in Europe, handed over to the students of Christendom, the legacy which they had received, and with it the increase which had been added to it while in their possession. They had given to the various organs names from their own language, some of which have been handed down to us, and we recognize the era of Arabic custodianship of our science, in such names as "nucha", for the neck, and "sumen" for the umbilicus, while their examination of bones in cemeteries added the facts that the lower jaw was composed of but one bone, that the sacrum was composed of five, and the coccyx of four in controversion of Galen, who thought that they were single bones.

A thousand years of anatomical ignorance, a thousand years of dependence of the priestly leeches upon the labors of Aristotle and Galen, passed. A thousand years during which the papal thunders stunned into torpidity the energies of searchers after anatomical truths, until in the early part of the 13th century, Bologna admitted into her university teachers of anatomy, who in this second infancy of the science, followed blindly the teachings of Galen, and yet in following him laid the foundation for the edifice which Mondino in the next century was to commence building. A greater liberality toward dissection began to be developed and in 1315, Mondino, the father of modern anatomy, began to teach in the school of Bologna, and to demonstrate, in spite of popular prejudice, the facts which are the rudiments of modern anatomy, from personal investigation. His opportunities, as you may suppose, for dissection were limited, and in the whole course of his ten years of teaching in Bologna, he is accredited with having dissected but three bodies. He divides the body into three cavities, which he called "ventres". The head or upper containing the animal members, the lower, the abdomen, containing the natural members, and the middle or thoracic cavity containing the spiritual. In imitation of the Arabians, he called the Omentum, "Zirbus", and followed in his work very closely the descriptions as given by the Mohammedan physicians. He first described the caecum under the name "monoculus", and divided the intestines into rectum, colon, caecum, ileum, jejunum and duodenum. His description of the heart and blood vessels comes nearer than that of any other writer before Berengario and Vesalius, to showing the circulation of the blood. He describes the brain, and particularly the dura-mater. The ventricles and the choroid plexus, the latter as being "a blood red worm". He noted the optic nerve and called it the first—and described seven pairs in all of cranial nerves,—calling the pneumogastric the nervus vagus—and numbering it sixth.

In 1480 Matthew de Gradibus of Gradi, near Milan, first described the ovaries as being the ovum producers of the female, as was afterward proven by Steno. In 1495 Gabriel de Zerbis of Verona, first described the olifactory nerve. In 1503 Alexander Achillini of Bologna, showed that the tarsus was composed of seven bones, described the salivary orifices, which are now called Whartons ducts—and gave a clear demonstration of the existence and use of the Ileo-caecal valve.

The years 1500 to 1540 saw the progress of the science under James Berenger of Carpi, better

known as the first successful treater of syphilis than as an anatomist, and yet he gave to anatomy a grand result of research, and in his time is said to have dissected over one hundred bodies. He was the first to illustrate by woodcuts the anatomical works, which he published. He first mentioned the vermiform appendix, and described the peritoneum, although he did not know of its reflexion on the abdominal wall. He first recognized the larger relative size of the pelvis in the female than in the male. He discovered and described the aretynoid cartilages, and describing the pericardium, demonstrates the constant presence of the pericardial fluid. In his description of the heart he confuses himself in regard to the presence of the spirit, which the anatomists of the age supposed was contained therein, and becomes perplexed by the pulmonary artery, or arterial veins, and the pulmonary vein, which he called arteria venalis. He enumerates the tunics of the eye, discovered the malleus and incus, and ossicles of the middle ear. Up to the time of Beranger, Italy had been the fountain and source of the anatomical knowledge of the age, but in the early part of the sixteenth century, Jacques Dubois (better known under his latinized name of Sylvius) began his course of lectures in the university of Paris. Although to a great extent an empiric and charletan, he added largely to the fund of Anatomical knowledge of his time, and had for a pupil one Andreas Vesalius, whose work has overshadowed his, and to whom we owe much of our knowledge of him. He did not use the bodies of human beings for his demonstrations, and according to Vesalius, employed only the bodies of dogs, horses, and other animals. About the same time, Etienne, in Paris, demonstrated the existence of a canal through the entire length of the spinal cord. Both these men, Dubois and Etienne and their contemporaries, with the exception of Vesalius, labored under the disadvantage of too closely following the teachings of the ancients, and particularly of Galen, but Andreas Vesalius, born in Flanders, and a pupil of Dubois, was a man of too much originality to follow any one, and after acquiring at the university of Louvaine a classical education, began at the age of fourteen to study anatomy at Paris. In spite of the laws, both of church and state, he refused to confine himself to dissection of animals, and in the secrecy of his garret, worked persistently, and with observation unbiased by traditions or conventionalities, on bodies stolen from graveyards, and found in the rivers, until finding the law following him too closely, he went to Italy, and after a few years spent in study in Venice, was invited at the age of twenty-two years to teach publicly in the university of Padua, and after teaching there for seven years, went by special request to fill the chair of anatomy at Bologna. At the age of twenty-eight he had compiled the materials for his work on anatomy, and had published them. His demonstrations of the many errors in the writings of the followers of Galen had made him many enemies, and at the age of thirty-five we find him in Spain, court-physician to Charles Fifth and later to Phillip the Second, defending himself from their persecutions, until finally, in examining the body of a dead grandee of Spain at the request of the relatives, and in their presence, it was noticed that the heart gave some feeble palpitations after it was cut into with the knife and this being made a cue for his enemies, he was thrown into the hands of the Inquisition, and condemned to death. Through the intercession of his royal master, his sentence was commuted to making a pilgrimage to the holy sepulchre. He started out to perform his penance, and while on the way, received from Padua an invitation again to become professor of anatomy at that university, but in obedience to the mandates of the court of the inquisition, he continued his voyage only to meet death while returning, by shipwreck and the miseries following it, on the island of Zante, dependent on the charity of the people among whom he was thrown, to procure for his body decent burial.

In reading of the progress of the science of anatomy, and the men who built it up, we must look to Andreas Vesalius, as the founder of comprehensive anatomy, the first to classify, and the first to describe, the first to demonstrate, and the first to prove by absolute and indisputable evidence, the hard facts in anatomy. He stands at the head of the line of distinguished names of men, who animated by his example, followed him and built upon the doctrines, which he had eliminated from the romantic suppositions of Galen and his followers, the clear lines of thought, and the symmetrical structure of descriptive and surgical anatomy, as it stands today. To enumerate the discoveries of Vesalius, would take more time that it is the object of this paper to consume. Suffice it to say, he not only rediscovered and corrected the principles taught by Galen, Celsus

and others before him, but added more to the knowledge of the science than any single man, before or since, and he has been justly called the Father of the Science of Anatomy. His work is eighty per cent correct, as judged from our present knowledge.

Contemporaneous with Vesalius, was an Italian teacher of anatomy, who has left his name in anatomical nomenclature, Bartholomew Eustachius of San Saverino. He dissected before a large class of pupils at Padua, and particularly gave his attention to the anatomy of the ear, rediscovering the tube, which bears his name, and was probably the first to describe the stapes. He first described the muscles attached to the malleus and incus, and from engravings illustrating his works, we learn that his method of dissection of the middle ear has not been improved upon during the centuries since his time. He is the first among modern anatomists, who is recorded as bringing the magnifying glass to their aid in the examination of tissues. The works of Eustachius were numerous, and that more is not known of them is due to the fact that for nearly two centuries or until 1790, they were hidden away among other records in the Papal library. Columbus and Fallopius were pupils of Eustachius. Columbus was his successor at the university of Padua, and is best known for his correct and able description of the cavities of the heart, and the first good account of the ventricles of the larynx. Fallopius, professor at Pisa in 1548, and afterward at Padua, is best known for his description of the female genitals, and particularly of the tubes which bear his name, although he added much to the knowledge of the tympanum, and the cochlea. At about the same time a learned Sicilian physician, John Phillip Ingrasias, wrote his commentaries on Galen and Vesalius, and claimed the discovery of the stapes, as did also Eustachius and Fallopius. He gave the first distinct description of the sphenoid bone, and corrected many of the mistakes in the myology of Vesalius. In Britain up to the year 1565 we hear nothing of the study of anatomy, and indeed at this date there was but little learning of any kind outside of the art of war, and the joyous practice of arms. But in this year and in the decade immediately after it, there were published in England two books, one by John Halle, called "The Fruitfull and Necessary Briefe Worke" giving the first English digests of the Arabian and Galenic teachings, and in 1578 a work by Master John Bannister entitled "The Historie of Man From the Most Approved Anathomists of the Age", which is a clear and good compilation of the condition of the science up to that date, and may be considered the stepping stone, which lead to finished work of the future greatest anatomist of his age, John Hunter.

Paris and Italy had furnished all the anatomical lore and learning for the civilized world, and their alumni were beginning to spread through Europe, and to teach the discoveries of Vesalius, Fabricus, Ingrassias, Fallopius, and Varolius, who may be said to be the greatest Italian Anatomist.

Passing to Hieronymo Fabricius of Aquapendente, who made brilliant discoveries in regard to the anatomy of the brain, but particularly rendered his name famous by his discovery of the valves of the veins, and their uses. Although the valves in the Vena Azygos had been observed by Sylvius, and Vesalius; they made no conjecture as to their use.

Of Varolius and his discoveries we can safely say there are few greater names than his, and few anatomists whose work has been more clear, concise, and valuable. He was in 1545 professor at Bologna for a short time, and was the author of a work on anatomy, in which he describes the optic nerves and the contents of the cranial cavity, but more particularly the medulla and the pons, to which has been given his name. He described the hippocampus more minutely than any previous writer.

About the same time Volcher Coiter of Groningen, who perhaps may be said to have been the first vivisectionist, began his experiments on animals to endeavor to discover the uses of the internal organs, and to give a description of the cartillages; and Julius Casserius of Placenza described the ganglion which bears his name.

In the period immediately following Vesalius we are entering into the years that marked the introduction into the knowledge of anatomy of the fundamental facts as to the circulation of the blood, the ultimate discovery of which by Harvey was to revolutionize the science of Physiology. It was a most critical era in the history of our science, the time when anatomy was to prove itself something more than a curious study.

The idea of the use and motion of the blood was one which had lead many a student to make investigations about the thoracic organs, but persuing the course of the blood to the heart, and

then taking it to the lungs the great stumbling block for all investigators immediately presented itself, in the shape of the arteria venosa, or pulmonary vein, and the vena arteriosa or the pulmonary artery. We have already seen that Aristotle, Mondino, Berenger, Servetus, Columbus and Fabricus had had theories in regard to this matter, but had always been foiled by these two apparent paradoxes. Mondino believed that the blood came to the lungs through the pulmonary artery to nourish them and that the aorta and arteries conveyed the *spirit* into the blood through all parts of the body. Berenger although describing the valves of the heart and the septum between the two sides as being impervious, nevertheless followed the old Galenic theory of the spirit. Andreas Vesalius in the same way fully understood the anatomy of the heart cavities, and their valves without understanding their uses.

In the year 1531 Michael Servetus published a book called "De Christianismi Restitutio" in which he distinctly describes the circulation of the blood through the pulmonary arteries to the lungs, from the lungs through the left ventricle by some uncertain course to the aorta, and thence to all parts of the body. (Burned at the stake in 1553.)

Columbus, who claimed the honor of this discovery, did not publish his account of it until in 1559, six years after the death of Servetus and then therein only announced that the blood coming from the lungs came mixed with air to the left ventricle, to be distributed to the whole of the body. Galen had imagined a physiological system by which he accounted for the appearance of the blood in all parts of the body. He thought the blood was formed in the liver, it then passed to the heart through the vena cava, then from the right ventricle by the pulmonary artery to the lungs, where it was cooled and returned by the same vessel to the right side of the heart. The air was brought into the lungs by way of the trachea, and then by way of the pulmonary veins it was carried to the left ventricle where it was mixed with the blood that was supposed to come into the left ventricle through certain supposed "porosities" in the inter-ventricular septum, and there by this admixture a certain vapor called "vital spirit" was formed and the blood then passing through the aorta went to all parts of the body, carrying with it the vital spirit.

Vesalius was the first to doubt the presence of these porosities, Berengario di Carpi the first to deny them, Columbus the first to correctly state that the blood passed in some way through the lungs and came back to the heart by way of the pulmonary veins, and Cesalpinus of Arezzo the first (after Servetus, whose work had been lost when all but two of his books were burned by Calvin) to state that the blood from the right side of the heart passed by a capillary circulation in the lungs to the pulmonary veins and thence to the heart. These discoveries and the demontration of the valves in the veins by Fabricius of Aquapendente in 1574 were the essential steps in the gathering together of the data that Harvey with a clearer conception of the meaning of each and all of them, finally united into a symmetrical whole and announced after lecturing upon the subject at London, in St. Bartholemews Hospital from 1613 (Note: There is a discrepancy in dates of different writers on this subject.) in his book in 1628, the fact of the discovery of the circulation of the blood, a discovery that was probably of greater importance than any ever made in any of the medical sciences.

He was immediately calumniated, mocked at, and ridiculed by all the anatomical world, but in spite of all he defended his theory, and with so much ability, that his worst and most envious libelers were obliged to accept it as being the only theory upon which could be founded a reasonable explanation of the various anatomical facts already discovered. As we may well imagine, this discovery immediately led to the most enthusiastic study of the blood vessels by anatomists throughout Christendom, and immediately following Harvey, we find a host of investigators, searching, and leaving their names upon their discoveries, while anatomical treatises began to assume a more instructive and exact character. Among the names of celebrated men whose researches in the blood vessels made them famous, we find Nicholas Steno. Steno's duct. Richard *Lower* the author of a classical treatise on the nerves. Vieussens, whose name is borne by a valve in the brain; Malphigi, Malphigian ducts; Adrian Spigelius, Lobus Spigelii; Casper Bartholin, Glands of Bartholin. And Peter Dionis, who while surgeon to Louis Fourteenth published a work on anatomy, which passed through many editions, and was for many years the standard text book in England, as was his work on surgery in which he applied the principles of anatomy to surgical operations.

Concerning the next great step in the advance

of anatomico-physiological knowledge we must turn to Gaspard Asselli of Cremona who in 1622 first accurately described the lacteals. Erasistratus had seen them but had had no conception of their meaning. In 1647 Jean Pecquet of Dieppe, discovered and correctly described the receptaculum chyli. In 1650 in an effort to trace out the chyliferous vessels Olaus Rudbeck of Westeras in Sweden first discovered the lymphatic vessels of the liver and the lymphatic glands.

Almost at the same time and quite independently of Rudbeck, Thomas Bartholin of Copenhagen, made the same discovery and carrying it farther than Rudbeck had carried it, established the nature of the whole lymphatic-chyliferous system, thereby destroying the belief that had been held since the time of Hippocrates, that the blood was formed in the liver directly from the food.

Asselius made the chyliferous ducts of the mesentery, end in the pancreas and liver, and only by inference conjectured their connection with the thoracic duct. De le Boe (Franciscus Sylvius of Hanault) shortly after demonstrated the existence of the two systems of lymphatics, and the differentiation and elucidation of the whole problem was greatly advanced through the work of Highmore, (whose name is associated with the antrum in the superior maxilla,) and after him by an Englishman, Jolyffe, before the final announcement by Rudbeck and Bartholin. From Harvey's discovery and the demonstrations of these men a new world was displayed, a world the investigation of which by the men who have come after them has given to us our wealth of exact medical knowledge.

In 1654 Francis Glisson, after ten years spent in researches in the anatomy of the abdominal viscera, demonstrated the peritoneum, and gave his name to that portion of the areola tissue, now called the Capsule of Glisson.

The beginning of the seventeenth century is marked in anatomical annals as being the date of appearance of a large number of distinguished writers and investigators, prominent among whom stands Thomas Willis, whose discoveries and descriptions of the anatomy of the brain stand today preeminent for their clearness of detail and accuracy of description.

Willis first numbered the cranial nerves (nine pairs) as they are numbered today by most anatomists, described the corpora striata and the optic thalami, gave the first clear description of the circulation of the brain and his name to the circle of blood-vessels at its base, remarked the arborescent arrangement of the white and gray matter of the cerebellum, and in angiology examined minutely the structure of the arterial and venous walls.

The anatomists contemporaneous with and immediately following Willis, were the first to inquire into the minute structure of the organs, and in 1658 we find Robert Hooke, and Nehemiah Grew, using the simple lens for the examination of tissues, and the Dutch philosopher Leuwenhöch, demonstrating the blood corpuscles, spermatozoids, milk corpuscles, and epithelial scales of the cuticle. Malphigi by the aid of the magnifying glass first saw the malphigian tufts and bodies in the spleen and kidney, the cancelli in bone, the terminations of the bronchioles, and the capillary circulation, and he may be regarded as the founder of histology.

De Graaf in 1660 examined the female genital organs and described the bodies now known as the Graafian follocles, and Steno rediscovered and named the parotid duct, and gave a definite description of the lachrymal glands.

Between the years 1665 and 1680 Frederic Ruysch, professor of anatomy at Amsterdam, perfected the methods of injection of the vascular and lymphatic systems, and thus paved the way to more definite researches in the circulatory system, and in the nutrient supply of the various organs. Injection had been practiced roughly, and with poverty of results by Willis and Glisson, and before them by Mondino, Allessandra Gilliani, Eustachius and Varolius, but Ruysch perfected the methods used, and with his all searching syringe corrected the errors of all the writers on the vascular systems, before him. About the same time Henry Meibomius rediscovered the palpebral glands and gave them his name, although they had been known and described by Gasserius; and Conrad Peyer noted the glands of the intestinal wall. John Conrad Brunner while making experiments on the pancreas, discovered the duodenal glands, named after him. In France, Duverney was demonstrating in the Jardin Royal, the anatomy of the ear, the sinuses of the cranium, which he was the first to prove as emptying into the jugular vessels, and the decussation of the fibres of the medulla oblongata.

In the latter part of the seventeenth century, we first find the study of anatomy encouraged by governmental aid and appointment. In Paris a

chair and pension was endowed in 1665, by Colbert, by order of the king, and in England by order of Charles the Second in 1663, the Royal Academy of Sciences was established.

This society by offering prizes and honors to those whose scientific work had made them worthy, brought about a competition in examination and research, which through the work of such men as Collins, Henry Ridley, and Nesbitt, added largely to the knowledge of anatomy, both descriptive and comparative, then possessed. In France, Raymond Vieussens, in 1684 published his researches on the brain and spinal cord, described the ventricles of the brain, and gave his name to the valve in the floor of the fourth, and in later works gave the first description of the sympathetic system. To the same period belong the announcements of the results of the researches of the celebrated English anatomists Bidloo and William Cowper, the latter of whom discovered and described the glands in the male perinaeum—which bear his name—and demonstrated the connection of the arteries and veins in the mesentery.

The study of anatomy in Italy had in a measure been dormant for a hundred years, or since the time of Malphigi, but in the latter part of the seventeenth century we find it again awakening, through the works of Valsalva and Santorini, demonstrating the relatings of the blood vessels, the facial muscles, and the lachrymal ducts, and Morgagni, beginning the study of morbid anatomy.

In France, Winslow, a Dane, and Albinus in Holland, published in the beginning of the eighteenth century the most magnificent works on anatomy then extant, and illustrated them with plates, the accuracy and beauty of which cannot be excelled today. And yet the works contained many errors, many of which Haller of Göttingten was to correct in his excellent treatise on anatomy and physiology, in 1765. While these three writers were compiling their works, John Frederic Meckle produced a treatise on the brain, and described the spheno-palatine ganglion, which bears his name, and recognized the relation of the veins with the lymphatics.

J. V. Leiberkuhn published his observations on the villi, and glands of the small intestines. John G. Zinn described the anatomy of the eye more completely and correctly than had hitherto been done. In Holland we find the study of minute anatomy engrossing the attention of Bonn of Amsterdam who described the character and distribution of cellular tissue, aponeuroses, and the periosteum, and in France, Bordue described somewhat imperfectly the mucous tissues. About 1762, through the efforts of Cheselden in England and Peter Camper in Amsterdam, pathological, and relative anatomy made considerable progress, and the foundations of the present system of surgical anatomy were beginning.

A glance at a few of the men who in the latter half of the eighteenth century made the science of anatomy a noble monument to human perseverance and skill, and I shall be done. In 1768 William Henson completed and gave to the royal society of London, the results of fifteen years of research in the lymphatics and lacteals, and in 1786 Cruikshank proved beyond a question, the theory first advanced by John Hunter, that the lymphatics are only absorbants, except in the cornea, and gave the most complete description of the anatomy of the glands and valves. He also injected the villi of the intestine, and reaffirmed the principles taught by Leiberkuhn, while Haase gave the first description of the lymphatics of the skin.

In Italy Mascagni, who may be said to be the last Italian anatomist of the third era, by original investigation and by personal demonstration, before the Grand Duke of Tuscany gave the magnificent result of his researches in the same direction, and showed that he had discovered the true nature of the lymphatics before either Henson or Cruikshank, but that delays of an unavoidable nature had prevented its announcement.

In the study of the nerves much was accomplished by Willis, Munro, Vieussens, Winslow and Haller, whom I have already mentioned as improving on his predecessors. However Wrisberg was, in his able work, to make announcements, and give new and more complete descriptions of particular portions of the brain, and Meckel, Kaldschmid, Metzger and Scarpa, were to publish treatises on the nervous system. The finest and most exact work on this branch of medicine in the eighteenth century was done by Walter in his treatise on the nerves of the chest, and by Scarpa in his treatise on the eighth pair, and on the ganglions and plexuses.

On general anatomy, Samuel Thomas Sömmering issued in 1791 his famous work, which, passing through many editions has been translated into every civilized language, and may be said to be the crowning masterpiece of anatomical compilation, and description, up to that time.

We have now arrived at the age when anatomy first took on the character it now bears, that is the foundation for all medical, surgical and physiological knowledge, and that it has come to occupy that position is due perhaps to the self-sacrificing efforts of one man, an Englishman, whose death may be well said to mark an era in the History of Anatomical Investigations, that man was John Hunter, born in Lanarkshire in Scotland in 1728, being the youngest of ten children. His schoolboy days are said to have been passed in idleness, and that at the time he went up to London to assist his brother, Dr. Wm. Hunter, who was physician to the Queen, he was considered a dull and stupid boy. However under the instruction of his brother, he began dissecting, and pursued a course of surgical and anatomical study, which in its results has perhaps been of more value to the medical and surgical world than the labors of any single man before or since. What Hunter did, and what was done after him, it is not within the compass of this paper to discuss, but it may be safely said that his influence is almost as potent today as when surrounded by his pupils, he dissected and demonstrated in his private museum in London. John Hunter was a remarkable man in that he had preeminently that faculty of application, and of far seeing generalization, which is only found in men who seem born to fill an emergency in the times in which they live. When Hunter began to apply the knowledge that he had gained by constant personal investigation, and when he, having tied the carotids in the neck of a deer, found after a week that the horns continued to grow, and did not wither as he had feared, applied the principle thus demonstrated to the ligation of the femoral artery, in a patient suffering from popliteal aneurism, he gave to the world a demonstration of the possibility of colateral circulation, which before his time had not been dreamed of, and the knowledge of which has saved many hundreds of lives. We see in the work of Hunter's pupils, Albernethy, Astley Cooper, Clift, Dr. Physic, and Jenner, Cline, Hume and Guy, the results of his influence and labors, for their work with his, form a lasting monument to English scientific research.

Hunters' writings were numerous and valuable. Most prominent among his anatomical treatises may be named his Anatomy of the Gravid Uterus, his Natural History of the Teeth, and his Orations.

For a farther and more extended knowledge of Hunter and his times, I cannot do better than to refer to that most charming of books, "John Hunter and His Pupils."

The history of anatomical study since the time of John Hunter has been a record of continued triumphs in the elucidation of the mysteries of the structure of living things. The improvements in the microscope, the development of many new methods of original research, the increased facilities for interchange of thought and extension of information, have added enormously to the opportunities of the investigator, and the habit of applying "the laboratory test" to all announcements of discoveries, have given to us of this generation an heritage of accumulated fact, that it is our duty to increase. No single man is greater than this, his inheritance. Without its advantages we are as nothing, and it well repays any one of us to estimate our treasure, and to profit by a frequent contemplation of the men who accumulated it, the often painful steps that were the price of its gathering, and at the same time to remember that by no means is all accomplished. There are many mysteries that must be transformed into demonstrable facts, many anatomical fields awaiting the explorer.

BOOK REVIEWS

Human Infection Carriers, Their Significance, Recognition and Management. By Charles E. Simon, B. A., M. D., Professor of Clinical Pathology in the University of Maryland School of Medicine and the College of Physicians and Surgeons, Baltimore, Maryland. Lea and Febiger, Philadelphia and New York, 1919. Price, $2.25.

This rather timely volume is written in the Author's usual delightful style. The subject of "Carriers" of infection has assumed great importance and should be thoroughly understood by all physicians. While the problem is one primarily for epidemiologists and sanitarians, it is not one which should be neglected by the practitioner. As the author rightly says in the Preface, this subject receives too little attention in Medical Schools and too little attention in Hospitals where infectious diseases are treated. More cooperation between the clinician and laboratory worker is urged for the public good.

The Carriers are divided arbitrarily into "active" and "passive". The diseases discussed are, Asiatic Cholera, Diphtheria, Plague, Typhoid Fever, Paratyphoid Fever, Epidemic Cerebrospinal Meningitis, Bacillary Dysentery, Acute Poliomyelitis, Pneumococcus Pneumonia. Streptococcus Infections, Influenza (Pfeiffer Type).

In addition there is an appendix containing State Laws and Regulations Pertaining to Infection Carriers, Municipal Ordinances, Maritime Quarantine, Quarantine Laws of the United States and Interstate Quarantine Regulations.

The discussion of Influenza is very brief and unsatisfactory. This is naturally the result of the appearance of the volume too early after our recent epidemic for the mass of data to be digested. The author seems to lean to the pathogenicity of Pfeiffer's bacillus. This question is still in dispute and at present the evidence tends to show the inocuousness of the Pfeiffer bacillus.

Those who teach this subject will find this volume invaluable. It should be on the list of essential text books for medical students. We fully expect that a second edition will soon be called for. L. M. W.

Chemistry for Nurses. F. N. Peters, A. M., Ph. D. Illustrated. C. V. Mosby Company, St. Louis, 1919. Price, $1.75 net.

This little book, simply written so that all may understand, covers the essential points in chemistry such as are needed in the approved courses for nurses' training. It is a work of 300 pages divided into 26 chapters with an appendix giving the names and formulas of the more common chemicals, tables of weights and measures, solubilities of common compounds, toxicology, and other useful information. This is followed by a glossary for the ready reference of the student nurse. It measures up to the former publications in this excellent Mosby series of manuals for use in the training school.

Vegetative Neurology. The Anatomy, Physiology, Pharmacodynamics and Pathology of the Sympathetic and Autonomic Nervous Systems. By Dr. Heinrich Higier, of Warsaw, Authorized Translation by Walter Max Kraus, A. M., M. D., New York; Nervous and Mental Disease Publishing Company, 1919, 3617 Tenth Street, N. W., Washington, D. C. Price, $2.00.

The subject of this book is the nerve supply of all automatically acting organs having a smooth musculature as well as the secretory parts of glands, both those whose secretions are external and those which elaborate internal secretions.

This is a timely book, especially as at the present day the vegetative and the so-called autonomic functions, the racial, phylogenetic functions as distinguished from the individual, animal or ontogenetic functions are receiving a greatly increased measure of attention and study, due to the fact that they have been neglected and also that the means of study and research into the ultimate anatomy and physiology of these organs is in its infancy. As the author states in his introduction, this "branch of medical knowledge which plays a small role in clinical medicine is neglected by the majority of physicians."

The author first expounds the vegetative nervous system under three divisions: He places first the regulation of the blood supply as follows:

I. "Arterial branches or vascular plexi. This includes (a) cranial or carotoid plexus. (b) Thoracico-aortic plexus. (c) aortico-abdominal plexus.

II. Peripheral branches connecting with the important cardiac branches.

III. Communicating branches connecting sympathetic ganglia with anterior spinal roots." The latter an important connecting path between sympathetic and central nervous systems.

Then follows a detailed description of the "metamere" the typical segment of the vertebrate spine and discusses the remarkable evolutions and transformations which characterize the development of the brain centers of the higher vertebrates; the telencephalon, diencephalon, mesencephalon, metencephalon, myelencephalon which are evolved ultimately from the humble "metamere." The sympathetic system is termed "the Alpha and Omega of the visceral system but also the bearer of the burden of the mechanical work of our vegetative life."

We should exceed our allowance of space in attempting to expound the fascinating lore of this book which deals with the phenomena which have always formed the deepest mysteries in the working of body and brain and it is a satisfaction to observe and record that these mysteries are beginning to be elucidated as the culmination of ages of painstaking study and research.

A sentence taken from page 30 gives a hint of the interesting phenomena which form the theme of this book: "Strange as it may seem, it is true nevertheless, that we should be without shame did we not blush, and without rage if our muscles did not contract, our heart beat more rapidly and thump in our breasts, and if we had not all those other changes in our vegetative organs which accompany the emotional activity of rage. 'That the mind acts upon the body and the body acts upon the mind in that important sphere of psychic activity. the emotional, is quite clear.' "

We can commend this book to the attention of all our readers and we feel sure the study of it will widen the horizon of thought upon the subject of the vegetative nervous system. R. D.

Cerebrospinal Fluid in Health and in Disease. By Abraham Levinson, B. S., M. D. Associate in Pediatrics, Northwestern University Medical School, Chicago. With an introduction by Ludwig Hektoen. 56 illustrations, including five color plates. C. V. Mosby Company, St. Louis, 1919. Price, $3.00.

The author has indeed produced a valuable little book and it is evident that he has come to the task with a large experience in the subject. There can be no doubt of the timeliness of the work and that there has been a real demand for a comprehensive work on all phases of the cerebrospinal fluid. The work is outlined under the titles given to its chapters: History of the Cerebrospinal Fluid; Anatomy and Physiology of Cerebrospinal Fluid; Methods of Obtaining from the Living Body; Properties of Normal Fluid; Pathologic Fluid; Methods of Examination for Diagnostic Purposes; Cerebrospinal Fluid in Various Diseases; and Intra-Spinal Treatment. The book is recommended for general purchase and reading by the profession.

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 504 Goldsmith Building, Milwaukee

Vol. XVIII. October, 1919 No. 5

EDITORIALS

Will You Be One
Of a Million Workers
To Obtain Members for
The American Red Cross?

Volunteer Now at Your
Chapter Headquarters
Third Red Cross Roll Call
November 2-11

THIRD SURVEY OF HOSPITALS.

THE third survey of hospitals being made under the auspices of the American Medical Association is now well under way. Through an extensive correspondence and a third questionnaire the Association has collected a mass of information on the subject. Much of this material has been tabulated and forwarded to committees in each state representing the state medical associations. Most of the state committees have arranged definite lines of action and by inspection of the hospitals or by other methods are securing first-hand information by which the data collected by the Association is being carefully checked. The immediate end sought is to provide a reliable list of hospitals which are in a position to furnish a satisfactory intern training. The investigation is not limited to intern hospitals, however, but will cover all institutions and the data obtained will be useful in any future action which may be taken in classifying hospitals. The work in Wisconsin is in charge of a committee of which Dr. L. F. Jermain of Milwaukee is chairman, the other members being Dr. L. E. Fazen, Racine; Dr. F. S. Wiley, Fond du Lac; Dr. J. V. R. Lyman, Eau Claire; and Dr. F. G. Connell, Oshkosh. The closer relationship which the hospital now bears to the public in the community which it serves makes it all the more important that the service rendered by it shall be excellent in character.

IF NOT, WHY NOT?

Do I fully instruct patients in controlling the spread of communicable disease?

Do I stimulate the people of my community to initiate community health work?

Do I always seek to discover the underlying social and economical causes of my patients' illness?

Do I place self-interest above community welfare by failing to report communicable diseases to the health officer?

Do I strive to keep public health matters out of partisan politics? Do I keep abreast of progress in public health?

The above pertinent questions are asked by Dr. Rupert Blue, surgeon general of the United States Public Health Service, in an article on "The Physician's Obligation to the Public Health" appearing in Modern Medicine. "With the extensive social and economic adjustments now going on throughout the world, the time has come for physicians generally to take a more active interest in determining the relation of medicine to the public health and welfare," declares Dr. Blue. "Unfortunately, many physicians apparently do not realize how they can participate in this important work. It may not be amiss, therefore, to enumerate what the community may legitimately expect of physicians. As I conceive his obligation to society, the physician should apply his special knowledge to the study of community health problems and make himself one of the leaders in the inauguration of measures to promote public health and welfare.

"To do this he must maintain active contact with the agencies engaged in the promotion of health and welfare; keep informed regarding recent important activities and achievements in the field of public health and state medicine; interest himself in the interrelation of health and social and economic conditions, and cultivate a broader outlook on the relation of medicine to public health and welfare; constitute himself a health educator, always to his patients, and as occasion offers, to the community; seek to discover the causative factors in disease and direct attention to their correction or removal; cooperate whole-heartedly with the health authorities by promptly reporting all births and deaths and all cases of notifiable disease, by assisting in the maintenance of quarantine, by promoting preventive measures for the control of disease, and by utilizing the diagnostic laboratory facilities and specific therapeutic agents offered by the health authorities. It is almost inexcusable for a physician to be ignorant of the sanitary condition of his community."

A PHYSICIAN'S CREED.

WHENEVER and wherever my work, by day or night, in peace or war, on land or sea, in laboratory or office, home or hospital, classroom or open field, may I be patient, poised and thorough; loyal to science and to men, unselfish in labor and pure in life. May I hold that science is better than gold, and men than greed, that service is proportionate to preparation, and reward to labor. May I use drugs only when indicated, diagnose before I treat or operate, clean before I deliver, use my laboratory, preserve a sense of proportion, respect but not worship my own opinion, seek consultation often, be slow to judgment and cautious in word and deed, and mingle in mind and touch with medical men. In the laboratory may I keep my records, in clinical cases my histories, and between them and me preserve the accuracy of truth. May I be strong with the weak, righteous with the wicked, wise with the foolish, honest with myself and kind to all men. May I avoid professional comparisons and sensitiveness, speak well of those of the household of medical faith, shun jealousy and eschew envy, follow progress, beware lest the demands of life chill my enthusiasm for study and knowledge, play sometimes and wander when I may. May I take injustice gracefully, disappointment easily, fight disease cheerfully, death hopefully, believe victory and defeat equally a part of the larger plan, and rise from both fresh for repeated conflicts. May I remember that I am an heir to the same diseases as my patients, must meet the same death, pass with them beyond the River, and may I go with a smile.—*Stewart Roberts, M. D.*

THE STATE MEETING.

THE seventy-third annual meeting of the State Medical Society of Wisconsin, held in honor of the returned service men, was a success from every standpoint. Nearly four hundred members of the Society registered at the meeting, the program was interesting and instructive throughout, and a cordial and hearty welcome was given the returned army officers of Wisconsin.

Dr. Charles R. Bardeen, dean of the Medical School of the University of Wisconsin, was elected president of the Society for the coming year. Dr. Wilson Cunningham of Platteville was elected first vice-president, Dr. H. W. Abraham of Appleton, second vice-president, and Dr. Phillip Rogers of Milwaukee, third vice-president. Dr. C. H. Lemon of Milwaukee was elected delegate to the American Medical Association and Dr. Joseph Smith of Wausau, alternate. Councilors Zierath and Abraham were re-elected. Dr. Edward Evans replaces Dr. Van de Erve on the Committee on Medical

Education and Dr. W. D. Stovall of Madison replaces Dr. Spencer Beebe of Sparta on the Committee on Health and Public Instruction.

A new section on Public Health and Preventive Medicine was authorized by the House of Delegates and was organized with Dr. W. D. Stovall of Madison as chairman and Dr. L. H. Prince of Sparta as secretary. This section will hold its own meetings at the 1920 annual meeting of the State Society.

Dr. W. F. Lorenz of Mendota was elected chairman of the Medical Section and Dr. H. B. Sears of Beaver Dam, secretary. Dr. Joseph Smith of Wausau was elected chairman of the Surgical Section and Dr. Daniel Hopkinson of Milwaukee was elected secretary. Dr. Charles Zimmerman of Milwaukee was elected chairman of the Eye, Ear, Nose and Throat Section, and Dr. S. G. Higgins of Milwaukee was elected secretary.

THE JOURNAL CLINIC

Edited by
L. M WARFIELD, Marquette University
and
J. S. EVANS, University of Wisconsin
(Address all communications direct to the editors)

CLINIC OF DOCTOR WARFIELD.

The two cases which are presented show different phases of a syndrome, due to the persistence of a gland which should not be found enlarged after a child has reached the age of five, or six years. They also illustrate the very powerful action of the X-rays upon such tissue, causing it to atrophy rapidly.

Case 1. A schoolboy 13 years old entered the Milwaukee County Hospital on July 16, 1919, complaining of heart disease. The family history is negative. He has had none of the diseases of childhood. His present trouble goes back about five months. He began to be short of breath, to have pain over his heart and dizzy spells. He lost weight and lately says that he has been spitting blood. He cannot lie on his back on account of the difficulty of getting his breath. He has to sleep propped up on pillows. His appetite is good, bowels are regular.

On examination the boy is found sitting up in bed breathing heavily, the shoulders heaving somewhat. There is slight cyanosis of lips. No cough is present. He cannot lie on his back without a feeling of suffocation, so severe that he does not attempt to lie down. He is fairly well nourished. The pupils are normal, the teeth and tonsils are in good condition, the tongue is clean. There are no palpable glands.

The lungs are clear throughout on percussion and auscultation, the note is somewhat hyperresonant. There is definite slight dullness beneath the manubrium and the breath sounds have a distinct tubular quality. The heart is slightly rapid, rate from 88 to 96. regular in force and rhythm. The apex beat is seen and felt in the fourth interspace, 7 cm. from the mid-sternal line. The sounds at the apex are clear, but the first sound has a split quality. At the base there is a soft, short systolic murmur over the pulmonary area. The pulmonary second sound is accentuated. The abdomen is natural, the liver and spleen are not enlarged. The reflexes are normal. There is no fever. The urine on first examination showed a little albumin. On several subsequent examinations none was found. By fluoroscope the lungs, heart and diaphragm appear normal. The anterior mediastinum does not seem as clear as it should. This slight haziness together with the evidence from physical examination seemed to show that there was some mass in the anterior mediastinum. The phthalein was 70 per cent in two hours. The blood showed no abnormalities. He was sent to the X-ray department for one heavy dose. Through some misunderstanding he was not given a severe enough raying. However, his condition improved after about two weeks so that he could lie flat on his back. A week following the first X-ray treatment he was given a heavy dose. He was kept under observation for several days after this. He was up and about the ward, slept well. had a good appetite and felt well. He was allowed to go home on August 12th, 1919. Two weeks later he reported for observation. He had been perfectly well. Examination of the heart was negative. The pulse was normal. On September 10th he again reported, complaining of some difficulty in lying on his back. The same complaint he had previously. He was again given X-ray treatment over his mediastinum. This has given him relief from his symptoms.

Case 2. A little girl, 10 years old, entered the Hospital on June 14, 1919, complaining of asthma. She was brought in from the Preventorium with marked dyspnoea and wheezing. Through an interpreter the history obtained from the father was that she has always been small for her age. She has had measles and scarlet fever. The mother has had asthma for a long time and the child has been in the Preventorium for past week.

About two weeks before entrance she began to have a dry irritating cough. The onset of this was gradual. After a few days she found it hard to get her breath. She was at home the first week, up and around. She became so much worse that she was taken to the Preventorium where she has been in bed all the past week. She does not cough as much as she did, but the breathing has become more difficult. General examination revealed an underdeveloped, undernourished, pale, anemic, weak child, sitting up in bed wheezing and gasping for breath. The alae nasae dilate at each inspiration. The inspiration is long and wheezing and seems fairly easy. There is a perceptible pause before expiration, the abdomen then becomes tense and with a tremendous effort, almost a spasm, and with one apparently powerful contraction of the abdominal muscles and diaphragm, expiration is completed. There is no cyanosis.

The mouth is full of partially decayed teeth, the

tongue is clean, pharynx and tonsils are congested. The chest is long and narrow. Percussion is clear. but on auscultation both lungs are full of piping and sonorous rales. The heart is normal. Abdomen is normal. There is general glandular enlargement. The urine is negative.

The leucocytes are 10,600. The differential count is normal. The red cells show no changes. Wassermann reaction negative. For several days she was given hypodermics of adrenalin. She was also given belladonna by mouth. Once the dyspnoea was so great that she was given a few whiffs of chloroform. She was also seen by the laryngologist who found marked edema of the glottis and suggested the possibility of an emergency tracheotomy.

She was then seen by me. I found the examination essentially the same as that made by the interne with the added finding of dullness and tubular breath sounds over the manubrium. Fluoroscopic examination revealed a definite shadow beneath the sternum above the heart. She was given one X-ray treatment of 5 m. a., 8 in. spark gap for ten minutes. There was almost immediate relief. That night she was more comfortable. Within a few days she was out of bed and all over the ward. She was discharged on July 22nd with no symptoms. She had gained weight and strength.

COMMENT.

There are more mistakes of omission than of commission. This illustrates one of them. It has been my observation that in the routine physical examinations made in hospital there is rarely any note made of the condition of the anterior mediastinum. Occasionally a child dies suddenly under an anesthetic for tonsilectomy. Autopsy has shown enlarged thymus gland. The surgeon neglected to make, or have made, a thorough physical examination. One such case occurred in the hospital in a little boy who was brought in and operated on. He was not entered as a hospital patient as he was the child of some employee. He was a robust youngster and no examination was made by the surgeon.

In this connection I recall a child of about eighteen months which was brought to my office several years ago coughing continuously. The mother said the child had begun to cough two days before and had been coughing steadily since. Both she and the child were exhausted as neither had slept for the two days. On examination there was found a greatly enlarged thymus. One dose of X-Ray promptly relieved the child. There is no trick in making out the enlarged thymus gland. Such a condition must always be kept in mind. Careful percussion over the upper sternum will always reveal a definite dullness which should normally not be present. In infants the thymus is always large enough to give a slight dullness. This is normal. The gland at birth is relatively large and may even extend over the upper portion of the pericardial sac. At birth it weighs about 10 grams. It reaches its largest size about the second year and then gradually atrophies. It has been stated that in an infant of eight months the distance between the manubrium sterni and the vertebral column is 2.2 cm. This space might easily be filled by an enlarged thymus. What causes the asthma, or the so-called thymic death is not certainly known. The function of the thymus gland is not yet settled. It is generally believed that it is a part of the so-called endocrine system. Extirpation of the gland in puppies retards growth and ossification of bones. No data is available in human beings.

Cases of asphyxia associated with enlargement of the gland are well authenticated. Some have thought that the asphyxia was due to pressure upon the vagus nerve.

That enlarged thymus glands are responsible for such conditions as are described in the two cases reported here seems fairly well proved. Certainly we should bear in mind the possibility of the enlarged thymus and make it a routine always to examine the mediastinum in infants and children. A slight dullness in infants we must remember is normal. An unusual dullness is abnormal. When to decide that the dullness found is usual, or unusual, will depend upon the clinical symptoms which are presented by the particular case.

CASE 4. M. R. a man of 66 was admitted September 9, 1919, with history of pain in abdomen the day before, no vomiting, but slight nausea, no fever. Pain has been constant since all over abdomen.

He has had slight attacks of abdominal pain for several years and four years ago was told he had appendicitis and should be operated upon. He has always enjoyed good health, been a hard working man and a drinker. The present attack began on the morning of September 8th when he had severe cramp-like pain in the lower abdomen, felt nauseated, but did not vomit. Took no purgative, only little soup, but worked all day. Up to 10 A. M., September 9th, he was moving beds, carrying five gallon cans around, but had some slight pain in lower belly. About 10 A. M. felt violent pain and had to lie down. He was brought to hospital at 12 noon.

Seen at once. Perfectly conscious, did not seem to be in great pain. Pupils normal, skin dry. cool. Pulse 72, regular. No complaint of nausea. Temperature normal. Abdomen slightly distended, rigid, with board-like hardness. Respiratory movements present to pubes al-

though limited. There was some general tenderness, not great, most marked in lower right portion. Leucocytes 8,200. Blood pressure 130-70-60. Operation at 1:30 under ether anethesia. When the abdomen was opened there was large amount of sero-purulent material in the cavity. Loops of bowels were intensely congested and covered with a sero-fibrinous exudate. The appendix was located to the right of the cecum and there was a perforation about its middle.

Pathological report stated that every layer of the appendix, which was greatly swollen, showed extreme infiltration with polymorphonuclear cells. Both mucosa and serosa were destroyed. Since operation there has been a slight febrile reaction, but the pulse has never been above 84. The abdomen rapidly became soft, free from pain and patient has made a rapid and uneventful convalescence.

COMMENT.

These two cases are interesting contrasts. In the first there was a rigid abdomen, pain, a desperately ill condition, leucocytosis, but no fever. In the second there was a rigid abdomen, pain, no very evident signs of severe illness, and a normal leucocyte count. In both the history was of acute onset. Neither vomited, but both were nauseated, neither had fever. The very small specimen of urine obtained from the first case showed some albumin. There were no lung signs in either case. We let the first case alone because it seemed that although there was abdominal rigidity the respiratory abdominal movements were fairly free and after prolonged pressure on the abdomen the rigidity ceased somewhat.

In the second case there was not a complete loss of respiratory abdominal movements, but no amount of palpation could make any impression upon the rigidity of the muscles. Further, the history was of value. What history we obtained from the first case did not seem to point to abdominal inflammation. In the second case there was the old history, the sharp pain, then the very severe paroxysm which must have come coincidently with the perforation of the appendix.

A man seen in a semi-conscious state is a difficult subject to diagnose. One must always bear in mind poisoning, as with morphine, diabetic coma, uremic coma, fracture of the base of the skull, internal hemorrhage. These are the most important diseases. If no history is obtainable the diagnosis must be made by objective signs only. The state of the pupils, the reflexes, the urine, the blood, should be carefully examined. Blood pressure estimations are often of help.

In the second case of general peritonitis there were few classical signs. The typical triad of pain, vomiting and fever were not present. There was pain, but the other two were absent. Usually the pulse is quickened in peritonitis very early in the disease and the leucocytes are almost invariably increased in the blood. Fever is the usual finding. Here there seemed to be no bodily response, yet the patient evidently had good resistance. It was an instructive case to us. Having the two cases simultaneously gave excellent opportunity for comparison. Such cases demonstrate the value of studying patients rather than text books.

Case 3. A man aged 50 years was brought to the Hospital September 11th, 1919, suffering with considerable abdominal pain and with a history of a diarrhea of three days' duration. There was no blood in the stools. He was unable to understand any language fully so it was difficult to obtain a consecutive history. It appeared that the diarrhea had come on suddenly and that he had not been ill previously. His greatest pain seemed to be in the right side of the abdomen. There was no edema, the skin had a dusky hue, the conjunctivae were a curious muddy color. The heart rate was 90 to the minute, the sounds feeble but regular. It was difficult to get the pulse and the blood pressure could not be measured. The lungs showed no evidences of lesions. The abdomen was very rigid, especially in the epigastric region. Leucocytes 20,000. There was no fever. The urine contained albumin, was cloudy, very small quantity. When seen on September 12th he appeared unconscious, resisted any effort to move him. Had involuntary urination. Facies dusky, lips and nails cyanosed. There was no edema. Pupils were irregular, left slightly larger than right. The pulse could not be felt at the wrists. There was considerable muscular twitching. The neck was a little stiff, but not unusually so for a man in his condition. There was no stiffness of arms or legs, no Kernig's sign.

The heart sounds could barely be heard although the chest was thin and the patient somewhat emaciated. Respirations were accompanied with a slight expiratory grunt, twenty-four to minute. There were scattered rales in the lungs and some slight impairment at the lower left back. He lay by preference on the left side. The abdomen was scaphoid with considerable voluntary rigidity although the respiratory movements were present. No spasm was made out. No masses were felt. The genitalia were negative. The reflexes could not be obtained. He never regained consciousness and died at 12:30 P. M., September 12th.

Autopsy on September 17th. Body of an emaciated middle aged white man. Pupils unequal. Peritoneum smooth and glistening. Small intestines generally congested. Appendix normal. The distal half of transverse colon and whole descending colon is intensely congested, here and there almost black, hemorrhagic spots in the sub-mucosa with scattered superficial small ulcerations.

The spleen is tightly bound down to the diaphragm. The capsule is in places I mm. thick. The trabeculae on cut surface are thickened. The pulp is dark red and soft. The heart is slightly enlarged, the left ventricle muscle 2 cm. in places. Slight myocardial fibrosis. The aortic valves show sclerotic plaques in the substance of the valves. The aorta is smooth. Coronaries stand open and are somewhat thickened.

The lungs collapse, show basal congestion. The liver is normal size, no marked changes. The kidneys are small, firm, capsule adherent, the right is smaller than the left. On section the cortex is somewhat thin, pale, streaked with yellow. The glomeruli are prominent. The pyramids are atrophied, the pelvis is increased in size.

Pathological diagnosis—Chronic diffuse nephritis, uremia, chronic perisplenitis, chronic myocardial fibrosis with hypertrophied left ventricle. sclerosis aortic valves, passive congestion lungs, fatty liver, acute congestion and superficial ulceration colon.

WAR NOTES

Former Mayor Gerhard Bading of Milwaukee was notified by the War Department, September 19, of his promotion to major in the Medical Corps, U. S. Army. Dr. Bading entered the service as a lieutenant and was assigned to duty in the Phillipines. He returned home July 3, 1919.

Dr. Harry H. Ainsworth, who for the past year has been in France and Germany in the government service, has, after an absence of twenty months, returned to Madison. He enlisted as a lieutenant in November, 1917, and soon after was promoted to the rank of captain. He has taken up his practice in Madison, limiting same to eye work.

Dr. Gilbert E. Seaman of Milwaukee has received a communication from the War Department that he has been awarded the distinguished service medal for his duty as division surgeon with the Thirty-second Division and other units in France.

Dr. Thomas Miller of Oconomowoc has returned from service in the Medical Corps, U. S. Army, and resumed practice in that city.

Dr. George D. Whiteside of Plover has returned after a year and a half in the service of the American Red Cross overseas. He was given the Medal of Honor by the French government and received the Revolutionary Medal of the new Czecho Slovak republic. Dr. Whiteside has not been discharged from service but returned to New York October first where he expects to be for six or eight months. He entered the service as a lieutenant and has since been promoted to the rank of major.

Captain Wm. Fleming, late of the U. S. Army in France, has opened offices in West Allis where he will practice his profession.

Dr. Ronald B. Rogers of Neenah, who is assistant surgeon on the U. S. S. DeKalb, does not expect to be able to return home before January 20. In his letter which is written from Paris, Dr. Rogers states that his ship has been ordered from Brest to proceed to Constantinople with the American mission to Turkey. He is a graduate of the Columbia medical school, New York, and had expected to start the practice of medicine and surgery in Neenah within a short time.

Captain G. R. Reay has returned to La Crosse after several months service in Europe. He reported for duty January II, 1918, as a lieutenant and was promoted to the rank of captain on October 4.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY.

A. J. Looze, Brodhead.
A. F. Fritchen, Franksville.
F. J. Elias, Milwaukee.
R. T. Gilchrist, Milwaukee.
W. F. Grotjan, Milwaukee.
E. J. Linkman, Milwaukee.
H. McCabe, Milwaukee.
W. J. Fleming, Nashotah.
P. H. Fowler, Plain.
F. R. Borden, Plainfield.
A. A. Drill, Princeton.
C. N. Sonnenburg, Sheboygan.
E. P. Evans, South Milwaukee.
A. C. Nugent, Wauwatosa.
E. D. Angell, Milwaukee.
F. C. Caldwell, Baraboo.
H. C. Maurer, Beloit.
B. H. Holmes, Delavan.
A. Charbonneau, Green Bay.
A. J. Shimek, Manitowoc.
A. W. Gray, Milwaukee.
J. A. Heraty, Milwaukee.
J. F. McNary, Milwaukee.
C. M. Pearson, Ogema.
G. R. Baker, Tomahawk.
C. O. Rogne, Sawyer.

A NARROW ESCAPE.

The professor was lecturing to the medical class and stopped occasionally to ask a question.

"Suppose," he said, "a young woman in walking on a slippery pavement, fell and dislocated her ankle, and you happened to be on the spot, what would you do?"

"Rubber," answered the flippant and unthinking young man. The rest of the class held its breath till the professor went on:

"Quite correct. A vigorous rubbing would serve to keep down the swelling until remedies could be procured and applied." And the students breathed again.—*Brooklyn Eagle.*

BOOK REVIEWS

THE PERITONEUM. By Hertzler. Published by C. V. Mosby Co., St. Louis. 1919. 2 Volumes. Price, $10.00.

The Peritoneum by Hertzler is a very ambitious and comprehensive work of two volumes, but because of its size (850 pages) it is very difficult to review in the space available.

Volume 1 is a contribution from the laboratory of the Halstead Hospital and from the Department of Anatomy of the University of Illinois. It might perhaps be called the theoretical volume as it deals with the "Structure and Function in Relation to the Principles of Abdominal Surgery."

Such a contribution emanating from a smaller hospital is worthy of comment and consideration and one may hope imitation.

Volume 2 deals with diseases and their treatment and will be looked upon as the practical portion of the work, while in reality the reverse is more near the truth, the principle being more nearly facts, while our application of these principles many times comes under what might justly be classed as theoretical. If only one of the two volumes be available it would of course be the first dealing with principles.

The table of contents of Volume 1 include: Physiology, Histology, and Development of the Peritoneum and Gross Anatomy of the Peritoneum, Wound Healing, Nature and Genesis of Peritoneal Adhesions, The Prevention of Adhesions, Changes in the Circulation and Inflammatory Reaction of the Peritoneum.

One naturally turns with interest and hope to the chapter entitled The Prevention of Adhesions. After a very complete review of the subject in which many methods and their sponsors are severely criticised one finds the concluding paragraph as follows: "All that the surgeon can do to prevent adhesions is to operate with the utmost gentleness, placing the minimum of foreign bodies of all sorts, either temporary or permanent, within the abdominal cavity, and cover every denuded surface as carefully as though it were an unpardonable sin."

An example of the author's style is given in the following remarks upon the "Deleterious effects of Permanent Adhesions": "However, it is the undeserved reputation of adhesions for mischief, due to the slanderous conversation of surgeons, rather than to the real mischief they do, which has brought them into ill repute. If the surgeon would view them as scars with the same open mind that he views scars on the surface for instance, a better understanding would soon ensue.

"The disturbance of function of a hollow viscus or pain are the usual symptoms produced by the unnatural fixation. Each of these is a surgical rarity. In order that an adhesion shall cause pain it must limit the mobility of a movable organ. Pain produced by adventitious bands is unusual unless disturbance of function results. Usually, such conditions exist only in the mind of the surgeon, and in that of the patient due to tutelage of the surgeon. Severance of such adhesions does not relieve the difficulty. Failure to relieve by operation must be sought in a wrong diagnosis, and not in the occurrence of postoperative adhesions. This is not true in all cases, to be sure, but if this dictum were followed, the vast proportion of relaparotomies might be avoided.

"In order that it shall disturb the function of a hollow viscus the lumen of it must be narrowed to an extent incompatable with the proper performance of its function. Such a state is manifested by hypertrophy proximal to the site of constriction. If there is no such evidence of disturbance of function the diagnosis must be questioned. The mere fact that a woman is constipated and has an adhesion does not associate constipation and adhesion in a cusative relation. Perhaps she is suffering from splanchnic inhibiton because her husband has died or ought to die. Loose interpretation of the rules of logic has so vitiated the literature that few valuable data can be collated."

Facetiousness in a scientific work will, I am afraid, shock some of the dignified members of the profession.

An example is the following which occurs in a discussion of the physiology of the great omentum:

"Glisson and Petit believed it facilitated peristalsis; others regarded is as a suspensory ligament for the colon and as a tractor to the stomach to hold it down, and thus facilitate diaphragmatic respiration. The small flap formerly attached to the bosom of shirts to hold them down evidently originated from this notion of the function of the omentum."

Volume 2 part 1 considers the various phases of peritonitis, the discussion of treatment and of drainage being very good.

Part 2 discusses Appendicitis, Cholecystistic Peritonitis, Gonococcic Peritonitis, Pneumococcic Peritonitis, Puerperal Peritonitis. Traumatic Peritonitis without rupture, Fetal Peritonitis, Tuberculosis of the Peritoneum, Thrombosis and embolism of the Mesenteric Vessels, Diseases and Injuries of the Great Omentum, and Tumors of the Peritoneum.

One turns with interest to the subject of "Chronic Appendicitis" and meets with the following most straightforward and promising introduction:

"The following interpretation of the term Chronic Appendicitis is an attempt to correlate symptomatology and anatomic findings. It is desirable that the surgeon know whether or not the organ he holds in his hand is responsible for the existence of the symptoms for the relief of which he is operating. There are few more abused terms in surgery. The vaguest local or general symptoms are too often taken to warrant the removal of the appendix and the recovery of the patient from the operative traumatism is accepted as vindication of the opinion. Much has been written by surgeons and pathologists, and yet more by those who are neither. There has been but little attempt to correlate the histologic with the clinical findings. This discussion is based on such a study."

It is indeed a very difficult subject to handle and this is a very praiseworthy attempt which merits close study.

Of 69 pages devoted to Appendicitis, 12 consider Chronic Appendicitis. In view of the fact that there are at least ten if not one hundred operations for chronic

appendicitis to one of acute appendicitis it would seem that the proportion of the pages in the text books might be more in accordance with practice. Although this is a much more rational proportion than has hitherto been customary in works on appendicitis.

The author's experience as mentioned on page 582:

"In patients who have had severe attacks and have had abscesses, particularly if there is evidence of perforation as the escape of an enterolith or the formation of fistula, if the wound heals, the patient is practically insured against future attacks. In these, subsequent operations are demanded because of scar hernia and local disturbances of gut function. I have never seen such a case suffer severe recurrence of appendicitis," has been rather unusual.

On the whole the section devoted to appendicitis is admirable.

Tuberculosis of the Peritoneum is very well handled. Conservatism relative to removal of tubes is recommended.

The entire work is a splendid addition to our knowledge of the subject and the author and the publisher are to be congratulated.— *F. G. C.*

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SOCIETY PROCEEDINGS

BARRON-POLK-WASHBURN-SAWYER-BURNETT COUNTY

A meeting of the Barron P. W. S. B. County Medical Society was held Tuesday afternoon, September 3, at Barron. At the business session, various matters pertaining to welfare of the association were discussed and disposed of. Following this a banquet was served at the Hotel Barron after which the visiting members were entertained by the local members of the Society.

DODGE COUNTY

At the meeting of the Dodge County Medical Society, held at the Maple Shade Hotel, Minnesota Junction, resolutions were adopted asking the county board of supervisors to grant the medical men an audience on the advisability of establishing a county tuberculosis sanatorium. The social feature of the evening was in the nature of a homecoming banquet given for the physicians recently returned from the service. Drs. Webb of Beaver Dam and Stuesser of Alderly gave interesting talks on their experiences in the army.

EAU CLAIRE COUNTY.

The Eau Claire County Medical Society held its regular meeting Monday evening, September 29. After a supper at the Galloway House, the Society was addressed by Dr. E. P. Hayes of Eau Claire on "Front Line Medical Service."

MANITOWOC COUNTY

The regular meeting of the Manitowoc County Medical Society was featured by a dinner served out in the open among the pines at the Whitelaw Maple Crest Sanitarium. Members of the County Board, the trustees of the institution, Judges John Chloupek, A. H. Schmidt, and Sheriff Brennan were the guests of the Society. After dinner, all of the visitors were taken on a tour of inspection of the institution and then returned to listen to addresses given by Will Ross of Milwaukee; Miss Lohman, county visiting nurse of Sheboygan county; Judge Chloupek, and Major Bellis of Milwaukee. Three majors were at the meeting—Bellis, Shimek and Gates—all of whom saw overseas duty. Drs. Schmidt and Krohn of Calumet county attended the meeting.

ERWIN C. CARY, M. D., *Secretary.*

MARATHON COUNTY

A very interesting meeting of the Marathon County Medical Society was held at the Wausau Club, September 19, after the serving of a seven o'clock dinner. The following talks were given, "Serology of Syphillis," by Dr. George Hoffman, Bacteriologist for the Western Pennsylvania Hospital of Pittsburgh; "Fractures of the Thigh," Dr. M. L. Jones, Wausau; "Some Phases of Reconstruction," Dr. R. W. Jones, Wausau. Dr. C. H. Hopkins of Chicago, chief surgeon of the Northwestern Railroad Company, also delivered an interesting talk.

MILWAUKEE COUNTY MEDICAL SOCIETY.

The Milwaukee County Medical Society gave a complimentary "Home Coming Dinner" to its members who saw service, at the Milwaukee Athletic Club, Thursday, Sept. 11th, 1919. Covers were laid for two hundred and an interesting program was furnished by the returned men of the Medical Corps. Dr. Horace M. Brown presided as toastmaster.

ST. CROIX COUNTY

The regular monthly meeting of the St. Croix County Medical Society was held at the home of Dr. Boothby, Hammond, August 21, the occasion being Dr. Boothby's birthday. The afternoon passed in a social way and the Doctor was presented with a purse of fifty dollars by the members of the Society.

THE TRI-COUNTY MEETING AT KIEL

All the roads in Manitowoc, Sheboygan and Calumet counties led to Kiel on the evening of Sept. 4th. The occasion was the Tri-County Medical Meeting. Given a balmy, moonlit night, splendid roads, a receptive mood and a general feeling of anticipation, it was to be expected that a spirit of good fellowship and camaraderie should prevail, even in a gathering of men who generally insist that a certain excessive amount of dignity in a meeting of doctors may not be dispensed with. The pleasant and often abandoned custom of handshaking all around was certainly revived among the physicians of the three counties that night. And the best of it was that most of the eighty-five doctors brought their wives along.

Even before the time of the meeting the street in the immediate vicinity of the Pastime Theatre was lined on both sides with Lizzies and Henrys and other more aristocratic exemplars of the automobile makers' craft.

Promptly at eight o'clock the scientific part of the program, which consisted entirely of medical and surgical moving pictures, was started, and it held the undivided attention of all to its completion at ten thirty.

Thereupon the visitors adjourned en masse to the Blue Gardens where a luncheon was served, because it was thought that the trip home, which for the majority meant a drive of over twenty miles, should not be undertaken upon an empty stomach. There was music, and that meant dancing. And, being that doctors' wives are always good company, the hours sped by all too swiftly.

There can be no question that the success of the meeting was to a very large extent due to the presence of the ladies. Everybody seemed happy and the cares that so often beset doctors were for the time forgotten. Altogether the prophetic announcement before the meeting that there would be "no speeches, but you will talk about it afterwards" ran true to form.

F. P. KNAUF, M. D., *Secretary,*
Calumet Co. Medical Society.

WAUKESHA COUNTY

The Waukesha County Medical Society was entertained at the Chenequa Country Club by Dr. and Mrs. H. G. B. Nixon of Hartland. A short business meeting was held after which papers were read by Dr. H. B. Hitz of Milwaukee and Mrs. Byron M. Caples of Oconomowoc. Luncheon was served at five P. M.

NEWS ITEMS AND PERSONALS.

Medford has a new clinic and by November first will have a hospital. The new clinic has been organized with Dr. C. E. Nystrum as president, Dr. G. C. Nedry, secretary and treasurer, and Dr. E. B. Elvis, director.

At a meeting of the county board of supervisors next November a proposition for assistance in building a Racine County hospital as a memorial to soldiers and sailors will in all probability be considered. About $150,000 remains in the treasury of the Racine County War Relief fund and it is proposed to use that amount together with an appropriation from the supervisors in constructing the hospital as a memorial to those who gave their service to their country in the world war.

A memorandum relating to appropriations made from the scientific research fund and educational research and development fund of the U. S. Interdepartmental Social Hygiene Board gives the following for the University of Wisconsin: "An attempt to prepare mercurial and arsenical compounds which have a predilection for the central nervous system, in the hope of finding drugs more useful than any known in the treatment of syphilis of the central nervous system". Unler the direction of Dr. A. S. Loevenhart, Director of Laboratory.

Construction work on Pureair sanitarium, the tri-county tuberculosis institution that is being erected by the counties of Bayfield, Ashland and Iron, is progressing rapidly and if present plans do not fail the institution will be open to receive patients the first of the coming year. The sanitarium is located nine miles north of Washburn on the south shore of Chequamegon bay, making it one of the best locations in the state for such an institution. The three counties mentioned have appropriated about $100,000 to construct and equip the plant, and when finally completed it will be one of the finest and largest in the state having a capacity of 100 patients.

Dr. A. C. Edwards, who has been engaged in the practice of medicine at Arcadia for several years, has entered into partnership with Dr. Thompson of La Crosse.

Construction of an isolation hospital with space for the addition of a general hospital structure later is advocated by Dr. W. W. Johnston, deputy health officer of Racine. He feels that there is greater need for the isolation hospital at present but with the rapid growth of the city that a general hospital will have to be built within a few years.

The village of Amherst Junction has been in the grip of a smallpox epidemic which spread so rapidly that outside medical help had to be called in.

Miss Elsie Borman, formerly of Gary, Indiana, was appointed superintendent of the Plymouth Hospital by the board of directors. Miss Borman recently returned from service as a Red Cross nurse in France.

The Dominican Sisters, who conduct St. Catherine's Hospital at Kenosha, have taken over the Pennoyer Sanitarium which was formerly owned by Dr. N. A. Pennoyer.

Work on the new building for St. Elizabeth's Hospital, Appleton, will be begun this fall. The campaign for funds for the addition is in full swing and the plans are practically complete. The additional room will provide for a maternity hospital, and as more than 200 beds will be provided for, the congestion in the present building will be relieved.

Dr. F. W. Gobar of Alma has entered into partnership with Dr. Amunson of Mondovi.

The bureau of child welfare in the Wisconsin State Board of Health, authorized by the last legislature, is now being organized and will be directed by Mrs. H. H. Morgan of Madison.

A radical change in vaccination methods as applied to Milwaukee schools will be inaugurated this fall by immunizing children before a case of smallpox in a school is reported to health authorities. In former years, health officials stepped in to protect children from infection only in case where an outbreak of smallpox was reported. But under the new plan, preventive measures will be taken immediately by vaccinating the whole school so far as possible with the beginning of the year. One physician, who is to devote his entire time to the work, will continue to make the rounds of the schools during the entire year.

Dr. R. C. Blankenship of Stoughton has accepted a position with the University Clinic, Madison.

An Aoelian grand organ has been presented to the Ashland General Hospital by A. E. Appleyard and family of Minneapolis, who formerly lived in Ashland, in memory of Mrs. Appleyard.

Of the school children of Milwaukee over 14 years of age being given physical examinations by the city health department before granted permits to work, 60 per cent are found to have defective teeth. Permits are held up until the children are given dental treatment. Another 10 or 15 per cent are found to have defective vision.

Dr. P. S. Traxler of Chicago has opened an office at Oakfield and will engage in general practice in that village and vicinity. Dr. Traxler was released from army service last July after serving two years with the medical corps as a captain.

Nine young women enrolled in Wisconsin's second class of health instructors. The course, conducted under direction of the Wisconsin Anti-Tuberculosis Association, started September 17. Dietetic instruction and lectures by well-known educators and social workers will be supplemented by practical field work. West Allis has been chosen as a field for the class. Plans are now under way for the establishment of a clinic.

The financial campaign for the Good Samaritan Hospital, Superior, closed on September 10. The hospital has already been opened and is receiving patients.

About twenty soldiers are being treated at the Muirdale Sanatorium, Wauwatosa, for tuberculosis. Some are in the first stages of the disease, some are almost cured and others are merely there for observation.

Dr. E. M. Houghton, formerly a practicing physician of Chicago, has entered partnership with Dr. F. E. Blackbourn of Cassville.

The senior class work at the Maternity and General Hospital, Milwaukee, started September 8. The students will be given an eight hour day with four hours of twelve off duty for study and recreation.

Dr. Thomas P. Keenan of Milwaukee has opened an office in Lake Geneva.

Approval of a project to build a hospital at Madison as a memorial to the late Miss Mary Stoeber was voted upon favorably by the West Wisconsin Methodist Episcopal Conference. The hospital, which will be built within two blocks of the Capitol square, will specialize in maternity work and children's diseases.

Dr. and Mrs. P. G. Hankwitz of Milwaukee have returned from an auto trip through southern Canada and the east.

One of the most popular one cent Red Cross milk stations in Milwaukee is in the out-patient department of the Milwaukee Children's Hospital where from fifty to one hundred children a day gather off the street for a drink of milk. While the Red Cross furnishes the young women who dispense the milk, the refrigerated pump can, and sees to the delivery of the milk by a Red Cross wagon, the Children's Hospital will meet any deficit at the end of each month so that there may be no letup in the sale of the milk to the children.

Dr. G. F. Zaun of Milwaukee has returned from a motor trip to Yellowstone Park.

Instruction in hygiene and physical education, a course never before offered in any school, will be given at the Milwaukee Normal this fall. Co-operation of the federal government will be through the interdepartmental social hygiene board. The course is being established simultaneously in one normal school in each state. The work here will be under the general direction of Dr. M. A. Bussewitz.

Dr. W. B. Helm of Rockford was elected president of the Tri-State District Medical Association to succeed Dr. L. H. Prince of Sparta, Wisconsin. Dr. J. B. Guthrie of Dubuque was re-elected honorary president, and Drs. A. G. Sullivan, Madison, and H. G. Langworthy of Dubuque were elected to the board of trustees.

Dr. E. A. Linger has opened an office in Oconto, occupying the suite formerly used by Dr. P. F. Gaunt. Dr. Linger has just returned from the Erie proving grounds on Lake Erie where he had charge of a sixty bed hospital, being a member of the medical corps of the U. S. Army.

Dr. Robert Kispert of Chicago has been visiting relatives at Ft. Atkinson. He intends locating in Green Bay in the near future.

Dr. M. N. Pitz of Neenah has been appointed physician for the Lakeside Paper Company. Dr. Pitz will have charge of cases among the Neenah employees of the mill while Dr. G. E. Forkin, Menasha, will attend to the Menasha cases.

Dr. F. C. Rinker, member of the staff of the medical clinic of the University of Wisconsin for more than six years and chief of medical instruction of the University Extension Division, has resigned to enter work in Norfolk, Virginia.

To equip the women of the state with the primary essentials of disease prevention and care of the sick, since a return of the "flu" is predicted by medical authorities this fall, a course entitled "Prevention of Disease and Home Care of the Sick" is now offered by the University of Wisconsin Extension Division. The course was given first last fall to meet the demand on the part of mothers for the rudimentary principles of disease prevention, and several hundred women have already taken the course.

"It pays, a hundred times over; it increases the efficiency of our workers by from 10 to 25 per cent, and every day enables us to avert damage suits for thousands of dollars." This was the answer of the medical department of a Minneapolis plant employing 5,000 men to a question put by the Anti-Tuberculosis committee, as to whether medical examination of workers, before and during employment paid from a business as well as a humane standpoint.

The city commissioners have under consideration a proposition of establishing a health laboratory, under state supervision in Green Bay. The laboratory would serve the territory covering several counties in this section of the state. Recently the city engaged a full time health officer, and contemplates improving the public health service further. The first year's expense would be $3,200, with about $2,000 annually thereafter.

Boards of health in Wisconsin have been invited to send representatives to the annual meeting of the American Public Health Association at New Orleans, Oct. 27-30. There will be discussed communicable disease con-

trol; how to get backing for good health administration; public health nursing and health legislation.

The rate of mortality which American life insurance companies had to meet in 1918 was about thirty-two per cent greater than 1917 and fourteen per cent higher than the average death rate for a score of years. This is the statement in a summary made public by The Insurance Press, reviewing the life insurance distributions last year by insurance organizations operating in the United States and Canada, including the transactions of the bureau of war risk insurance of the United States government. Ten persons died from influenza for each American soldier killed in battle, the report declares, placing the number of influenza deaths at half a million.

With the completion of its new infirmary and research hospital, the University of Wisconsin is planning to increase next fall the scope of the medical service which it provides for its students. Besides, the medical examination, care, and advice provided for students by the university clinic in the past, students will in the future receive hospital care at the university infirmary during acute illness. The clinic will be equipped to take care of practically all cases of student illness except serious surgical cases. To cover the cost of infirmary care, an infirmary fee of $3 per semester will be charged of all students beginning next fall. This will cover all services rendered at the infirmary.

Use of quack medicines for alleged cure of venereal diseases has been effectually checked by the new Wisconsin law prohibiting sale by druggists and others. Reports from druggists are that the demand for these nostrums never was so great as at the present time when they are withdrawn from sale. The law also reaches the so-called "medical institutes" and quack doctors who advertise to treat so-called private diseases. These regulations are in line with Surgeon-General Blue's decision: "Self-treatment and quackery must go."

Most of the state charitable and penal institutions show a decrease in population for the past month, according to a statement issued by the State Board of Control. The state institutions for the insane had a population one year ago of 1,415 as compared with 1,386 on Sept. 1 of this year. This is a decrease of twenty-nine. The county institution for the chronic insane had a population one year ago of 6,853 as compared with 6,834 this year. This is a decrease of nineteen.

The federal health service, reinforcing repeated advice from state health boards and the American Society for the Control of Cancer, has issued a cancer circular for public distribution. It declares that one out of every ten persons over forty years of age dies of cancer. The government agency warns that cancer is unquestionably increasing throughout the world in spite of the fact that it is curable if treated early. The bulletin emphasizes that no medicine will cure cancer, that early diagnosis is all important and that pain rarely gives the first warning.

St. Agnes' Hospital of Fond du Lac is believed to be the first Catholic hospital in the country to authorize the sisters to substitute white habits for the regulation black uniforms while in the service of the sick. The change has been made for the reason that the white garment is considered more sanitary than the black robe. Sisters wear the white garments while on duty but don their black robes when off duty.

The Milwaukee Clinic has been incorporated in the City of Milwaukee. Department of Internal Medicine and Diagnosis, Drs. Louis F. Jermain and Louis M. Warfield. Department of Surgery, Drs. W. C. F. Witte and P. H. Jobse. Department of Eye, Ear, Nose and Throat, Dr. C. J. Coffey. Department of Urology and Cystoscopy, Dr. Julius W. Kleinboehl. Dr. Herbert C. Dallwig is associated with the Clinic as Chief Medical Assistant. Offices are in the Majestic Bldg. A large part of the work of the Clinic centers around diagnosis. It is hoped that it will prove of assistance to physicians who wish their cases studied intensively with recommendations for treatment, and that by this means medical service to the patients will be better correlated and that patients will be benefitted by this method of study. Cases referred for diagnosis by physicians will receive every facility for diagnosis and will be naturally referred back to the physician who will receive a report from the Clinic with diagnosis and suggestions for treatment. Physicians are invited to inspect the work at the Clinic.

DEATHS

Dr. Christian Christiansen of La Crosse died at his home September 8, 1919, after an illness of several months. He graduated from the University of Christiania, Norway, in 1879, practiced there for a time, and then came to this country thirty years ago. He was a member of the La Crosse County, Wisconsin State, and American Medical Associations.

MARRIAGES

Dr. P. G. McCabe, Fond du Lac, to Miss Lucille Lloyd, Fond du Lac, September 9, 1919.

MADE TO ORDER.

A small girl was taken violently ill from an overindulgence in unripe fruit. Her mother telephoned for the nearest doctor, whose telephone number proved to be surprisingly appropriate to the occasion, "eight-one-two-Green."—*Lippincott's Magazine.*

PUBLIC HEALTH AND LABORATORIES

Edited By W. D. STOVALL, Madison and
MRS. LOUISE BRAND, Milwaukee

THE IMPORTANCE OF STOOL EXAMINATIONS WITH SPECIAL REFERENCE TO FLAGELLATED INTESTINAL PARASITES

BY W. D. STOVALL, M. D.,

MADISON.

Until the last few years the so-called intestinal flagellates, particularly trichomonas intestinalis, have been considered harmless. Their presence in the intestine has been dismissed notwithstanding the fact that in many cases they offered the only diagnosis. This has been brought about by the fact that parasitologists have told us that the flagellates are harmless, living in the intestinal tract upon bacteria and other food found there without producing any damage to the mucous membrane and also because the medical man has been slow to realize the necessity of stool examinations. This latter is particularly true in the northern and western states.

It is now being slowly realized that one does not have to live in a tropical country to have amoebic dysentery or other intestinal disorders due to protozoa. Sistrunk[1] in 1911 gave one of the earliest accounts of tropical disease infections occurring in other parts of the world. He examined the stools of 110 patients who were suffering with diarrhoea, anemia and obscure intestinal conditions. Amoebas or trichomonads were found in 65 of these patients. Many other writers have called attention to this protozoa as an occupant of the intestinal tract of man and some have even stated emphatically that it is pathogenic. Brumpt[4], Escomel[11], Mello-Leitao[31] and others have reported cases of dysentery in which only trichomonas intestinalis or trichomonas with lamblia intestinalis could be found. Rhamy and Metts[44] report an epidemic of trichomoniasis. In this epidemic seventy-eight people were affected. These authors state emphatically their belief in the pathogenicity of trichomonas and one of them says that never in his large experience has he found these protozoa in stools except in cases suffering from acute or chronic diarrhea. In the epidemics described by these authors there were seventeen deaths out of the seventy-eight cases. Prentiss[42] has reported several cases of infections with an organism which is described as a flagellated protozoa. These patients all had diarrhea acute or chronic. Entamoeba histolytica was not found. Death occurred in two of the cases.

Physicians in Wisconsin and other northern and northwestern states have not been alive to the necessity of stool examinations, and especially in those cases presenting symptoms of obscure intestinal trouble, and anemia which is pernicious in type. My interest was aroused in this subject by a young man who came to me a little over a year ago with a diagnosis of pernicious anemia. His history was briefly as follows: Mr. B., unmarried; age, 35 years; always lived in Wisconsin; family history uninteresting; good health prior to 1916. In 1916 began to feel not up to his usual spirit. Early in 1917 had a severe attack of diarrhea which continued without let-up for several months and was medicated during this time with many drugs. In March, 1917, red cell count was 2,200,000 and decided polychromatophilia. No white cell count or differential at this time. In May, 1917, a blood examination gave the following results: Hemoglobin 29 per cent, red cells 1,220,000; color index 1.0 plus; leucocytes 4,000; differential count, small lymphocytes 49 per cent, polymorphonuclear neutrophiles 43 per cent; eosinophiles 3.3 per cent; basophiles .3 per cent, neutrophilic myolocytes .3 per cent, large lymphocytes 3.3 per cent, normoblasts, poikilocytosis moderate. Diagnosed pernicious anemia. He was given a series of transfusions totaling 3,100 c. c. of blood. After this some small improvement and slight rise in blood count. He continued to have intermittent diarrhea and constipation. And so he continued with but little improvement and came to me in the spring of 1918. Physical examination negative except for palor. Stool examination showed numerous flagellated parasites, trichomonas intestinalis. The red cell count was 2,960,000; hemoglobin, Talquist, 85 per cent; white cells, 5,680; differential count, lymphocytes 24 per cent, large mononuclear leucocytes 24 per cent, neutrophilic leucocytes 43 per cent, eosinophiles 4 per cent, transitional cells 5 per cent.

With this finding I made a diagnosis of trichomoniasis producing grave secondary anemia. I did this notwithstanding the fact that all text books and all of the literature until recently has indi-

cated that these protozoa are non-pathogenic. He was put upon treatment of various kinds. It is not my purpose to discuss the treatment of this individual case but to take up the treatment under the general discussion of the treatment of this infection. He has markedly improved under treatment, his red and white count being normal at present.

Some time after seeing this case another with trichomonas infection under the care of Dr. H. H. Milbee at Marshfield, Wisconsin, came to my attention. Dr. Milbee has kindly supplied me with the history of his patient and to impress the importance of this infection the following brief summary of the history of Dr. Milbee's case is given below.

Mrs. W., Abbotsford, Wisconsin; married; occupation, housework; age, 46; always lived in Wisconsin. Family history not interesting. Present illness began about eight years ago. In January she became sick after a midnight supper of oysters with vomiting and diarrhea. The vomiting and diarrhea continued for the eight years. Her usual weight was 168 pounds. She now weighs 108 pounds. She has gradually grown weaker until now she is unable to do her work; grave anemia has developed; feet and hands swell; face is very pale. Since October, 1918, she has been unable to leave her bed. She was admitted to St. Joseph's Hospital, Marshfield, Wisconsin, on February 20, 1919. All of the findings are uninteresting except the stool examinations which showed flagellated parasites, trichomonas intestinalis. The blood examination February 21, 1919, was red cells 600,000; white cells 8,000; hemoglobin 25 per cent. The patient was put under treatment for the removal so far as possible of the intestinal parasites and was discharged from the hospital March 28, 1919. The blood count at that time was 1,200,000 red cells; white cells 6,600, differential neutrophiles 60 per cent; eosinophiles 2 per cent; small mononuclear 31 per cent; large mononuclears 7 per cent; nucleated red cells 2. Her general condition was much improved.

These cases are cited first to show that it is not necessary to go to tropical or semitropical countries to find protozoal intestinal infection, and secondly, to point out to the physicians in Wisconsin in particular the importance of stool examinations in severe cases of anemia with a history of long continued abdominal symptoms, and in all cases of obscure intestinal disturbances and also, to point out the necessity of public health workers concerning themselves about this infection. The epidemiology is practically the same as that of typhoid fever.

An interesting phase of this subject is the difference of opinion of various writers on the pathogenic qualities of trichomonas and the part it plays in causing diarrhea. It seems important to outline briefly the opinion of some writers. The more recent writings all seem to indicate that trichomonas intestinalis is pathogenic to man and may often account for diarrhoeal disturbances and for anemias which are pernicious in type. Barlow in 1917 reported a study of the effect of trichomonas on patients in Barnes Hospital. He could not find that any patients showed any pathology except that which could be explained by other causes. That is that among those patients no distinct pathogenic quality could be made out for this organism. At the same time, however, Elliot reported a case of chronic diarrhea for which no cause could be found except large numbers of trichomonads.

Houghwont has made an excellent review of the subject and quotes from many writers, who do not hesitate to express their belief in the pathogenicity of this flagellate, and to say that it gives rise to the symptom complex known as dysentery. Others believe that it causes only a diarrhoea. The report of several writers who have attributed pathogenic qualities to trichomonas and of one who reports an epidemic of diarrhea caused by this organism has been referred to in the beginning of this article.

The clinical manifestation of the infection is described as diarrhea with colicky pains, watery or slimy blood stained stools, weakness, dyspnoea, loss of weight, progressive anemia simulating pernicious anemia, and the skin appearing yellow with urticarial or pellagroid eruptions. Later the stools consist of mucus, sometimes blood, pus and active trichomonads. In the chronic cases it is rare to see blood in the stool but mucus in small quantities is nearly always present, and as a rule there is a history of alternate diarrhea and constipation. The blood shows a moderate eosinophilia (6 to 12 per cent).

Freund[8] says: "I firmly believe that trichomonas is the direct cause of certain forms of acute, chronic and recurring enteritis, with abdominal pain, diarrhea, loss in weight, elevation of temperature and at times anemia."

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Doctors Should Specify

In a paper on Corpus Luteum in the New York Medical Journal, Dr. Sajous states:

> "The two most important prerequisites to success in the use of the drug appear to be:
>
> "1. The selection of a preparation made exclusively from the corpora lutea of pregnant animals, and
>
> "2. Due attention to the fact that the action of the drug is frequently slow in asserting itself and that the drug should be given up only when thorough trial has demonstrated its lack of efficiency."

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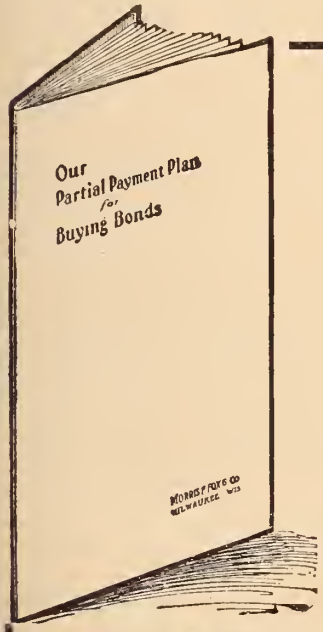

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The question of treatment is very unsettled. Methylene blue by mouth and irrigation has been highly recommended by some and strongly condemned by others. Ipecac, arsenic, thymol and all sorts of irrigations have appeared as specific remedies. Pollock and Pickard have recently written very much to the point on the matter of treatment and I am taking the liberty to quote their opinions.

"A few facts related to treatment stand forth as apparently proved. Ipecac in some form seems to have a distinctly beneficial effect upon the symptoms and plays at least a part in practically all methods of treatment directed against the ameba, although upon the flagellates it seems to exert only temporary influence. It would seem that in the attack upon the ameba it is necessary to place the drug both in the blood stream and on the intestinal lining, although some clinicians (Manson, Dock, Niles and Simon) claim satisfactory results from the use of large doses of the powdered drug placed below the stomach by means of properly protected pills, a good description of which is given by Niles[5]. Others use the alkaloid emetin placed into the circulation by needle, sometimes supplemented by arsenic subcutaneously or intravenously. The advocates of both of these methods claim good results and see no need of colonic irrigations as an aid to the specific treatment."

"We feel also impelled to record the only method that with us has proved at all satisfactory in treating the flagellate, trichomonas intestinalis, namely, the giving of large doses of calomel followed by saline purgation, once every four or five days, coupled with daily colonic irrigation of mercuric chloride (1 in 10,000 to 1 in 20,000). We are experimenting with other chemicals in the hope of finding something that will have a specific and permanent effect on them."

It is doubtful if trichomonas intestinalis can be completely and permanently eliminated from the intestinal tract of those infected. It seems possible in various ways to greatly reduce their number, and by so doing relieve the symptoms. Methylene blue seems to accomplish this. At least I could find no trichomonads while the patient was taking this drug. I could find them, however, in a few days after the treatment was stopped but not in such large numbers. This may be explained by the purgative which was used just before beginning the treatment, and once during the treatment. Emetin hypodermically undoubtedly accomplishes a good deal in reducing the number of these organisms, and under the microscope they are seen to be less active and their morphology altered during and shortly after the injections of emetin. Any purgative, magnesium sulphate, reduces the number for a short time. Colon irrigations have a claim to effective results for the same reason. It is probable that even if it proves to be impossible to find some drug which will destroy trichomonads in the intestinal tract that purgatives every two or three weeks with intervals, when colon irrigation is used for ten days or two weeks may be sufficient to keep the patient free from any symptoms of the infection.

A detailed description of trichomonas intestinalis, and the method of stool examination will appear in the next issue of the Journal.

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OH! THE SADNESS OF IT!

Tenderly she laid the silent, white form beside those that had gone before. She made no outcry, she did not weep. Such a moment was too precious to be spent in idle tears. But soon there came a time when it seemed as if nature must give way. She lifted her voice, and cried long and loud. Her cry was taken up by others who were near, and it echoed and echoed over the grounds. Then suddenly all was still. What was the use of it all? She would lay another egg tomorrow. —*Boston Herald.*

The Wisconsin Medical Journal

Volume XVIII MILWAUKEE, NOVEMBER, 1919 Number 6

ORIGINAL ARTICLES

ADDRESS IN SURGERY.

THE CARE OF THE WOUNDED IN THE ZONE OF ADVANCE AND ON THE FRONT LINES.*

BY GILBERT E. SEAMAN, M. D.,

COLONEL MEDICAL CORPS, CHIEF SURGEON 32ND DIVISION AND CHIEF SURGEON 6TH ARMY CORPS.

Mr. President and members of the Wisconsin State Medical Society.

Let me at the outset express to you my great appreciation of the honor and compliment involved in asking me to deliver the annual address in surgery. This honor has usually and properly been accorded to a general surgeon, but this year the interest seems to center about the surgery of the war, and the chairman of the program committee has suggested to me that you would be interested in the problems involved in the care of the wounded in the zone of the advance and on the front lines.

On this subject, after considerable experience, I feel free to speak and hope that I may be able to bring to your attention some matters of interest if not of great value.

War surgery may be said to be the surgery of traumatisms on a wholesale scale. It differs from traumatic surgery in civil practice in that the wounds met with in warfare are usually much more severe, are practically always infected, and are frequently subject to the complications that arise by reason of the many difficulties encountered in removing the wounded from the battle field, and the consequent delay which occurs before proper surgical assistance can be given. The wounds are frequently multiple, the element of shock plays a great role, and the work done especially in the zone of the advance is necessarily under conditions not conducive to the best results measured by the reasonable expectations of civil practice.

I believe that most surgeons with a wide experience in the war, will agree with the statement, that the generally accepted principles of surgery have not been disturbed or changed in any important particular by the lessons of the war, but I also believe that very radical and important changes have come about in the matter of methods and technique.

The problem of the handling of battle casualties differs in many respects from the problem that confronts the practitioner at home in dealing with accidents, or gun shot wounds in civil life. Sometimes expedients hitherto unheard of must be resorted to, decisions must be made promptly, independently, and often without the benefit of consultation and advice. At home in civil life, cases may be observed over long periods, the results are known, and this knowledge serves as a guide in similar cases in the future. On the battle field, the observation is for brief periods, results of methods are not often known to the surgeon in the advanced zone. The institutions of methods and the use of medical supplies and equipment must be with strict regard to the interests of the whole, and the interests of the individual must always be secondary to the interests of many. It therefore becomes necessary to regulate by orders and instructions and to some extent to interfere with the free exercise of initiative in individual cases. Entire freedom of action on the part of the medical officers even in handling of individual cases is often impossible, in consequence there is apt to be some conflict between the idea of the exercise of free choice and that of following directions or orders in the treatment of a given case or a group of injuries.

All medical officers in order to get the best results in the largest number of cases, must become a part of a great machine.

It is assumed that you are all more or less familiar with the organization of the medical department, and I will therefore touch but briefly upon this subject. You know that to each regiment and other separate units of sufficient size, medical

*Read before the State Medical Society of Wisconsin, Milwaukee, Oct. 1, 1919.

officers and necessary enlisted medical personnel are attached, and that these officers and men attend to all the work within the organization. The regimental surgeon or battalion surgeon establishes regimental and battalion aid posts, collection stations, etc., as required, and in accordance with necessities. They make all the necessary provisions for the care of the sick and the wounded of the organization, and this is all done under a general plan or scheme set forth by higher authority. A Divisional Sanitary Train consists of 4 Field Hospitals and 4 Ambulance Companies, with a Commanding Officer of the Train, a Director of Field Hospitals and a Director of Ambulance Companies, and each Field Hospital and Ambulance Company has a Commanding Officer and the necessary medical officers and enlisted personnel who establish and operate their several organizations as required. The particular methods to be followed are determined by the chief surgeon of the division, the corps or the larger command.

After some experience the following order for the care and handling of the wounded in my division was put into operation and was generally adhered to with satisfactory results.

Headquarters, 32d Division
Office of Division Surgeon
A. E. F. France.
24 June, 1918.

AMENDED CIRCULAR NO. 8

To—All Medical Officers, 32d Division.

I. *Front Line*

1. Whenever possible, first aid will be given and splints applied where the man falls, by detail from collecting station.

2. Much pain, shock, infection and damage to tissue will be avoided by early application of splints, and the avoidance wherever possible of the transportation of any man suffering from a fracture until the splints have been applied.

3. Hemorrhage will be controlled at the earliest possible moment.

4. Great care will be exercised in the use of tourniquets,

(a) The proper adjustment
(b) The length of time the tourniquet is left in situ.

5. The wounded will be carried, when necessary, from place of injury to the Battalion Aid post, by regimental medical personnel, stretcher bearers from ambulance companies as required or by men from combatant troops, detailed for that purpose.

6. Patients will be kept warm by the use of the necessary blankets.

II. Battalion Aid Posts

1. Situated convenient to the Post of Command of First Line. Will be equipped with necessary supplies of litters, blankets, medicines, anti-tetanic serum, first aid material, instruments, splints and necessary material for the administration of warmth.

2. At the Battalion Aid Post, necessary attention will be given to the control of hemorrhage; the adjustment of dressings and splints; anti-tetanic serum will be administered and the proper notation made by a "T" marked on the forehead with an indelible pencil and the letters "ATS" on diagnosis tag.

3. The diagnosis tags will be made out and attached by the first medical officer or member of Medical Department who treats the man.

4. The administration of warmth is of the greatest importance in the prevention of shock. This will be secured by the use of blankets, stove, hot water bags, hot bottles, etc. Patients will not be removed from the litter but new litter with the number of blankets and other appliances sent down from the front line will be returned by the bearers to replace those used.

5. Patients will then be littered by regimental bearers or bearers detailed from Ambulance Section to dressing station or ambulance head.

III. *Ambulance Service*—(Dressing Stations—where established)

1. At dressing stations any further attention that may be needed will be given. Anti-tetanic serum will be given to those who have not yet received it and notation made as required in Paragraph two.

2. Patients will be disturbed as little as possible; will not be removed from litter except in occasional cases of necessity.

3. Warmth will be maintained, hot drinks will be given to those able to take them; withheld in abdominal cases. Ambulances will be provided with hot water bottles and kept closed when necessary to maintain warmth, except when transporting gassed cases.

4. The dressing station or ambulance head will return by litter bearer a duplicate of blankets, splints and other material that come with the patient; and they will send such additional supplies as the medical personnel at the front may require, so far as possible.

5. Request for supplies should be by written memorandum.

6. Reserve supplies of anti-tetanic serum, emergency medicines and other necessities will be kept on hand for this purpose, each ambulance operating in the front line will carry the following additional supplies for exchange:

Litters	2	Shell Dressings (large)	4
Blankets	6	Shell Dressings (small)	4
Arm Splints (Thomas)	1	Bandages (3 sizes)	12
Leg Splints (Thomas)	1	Triangular Bandages	4
Cabot Splints	1		
Hot Water Bags	2		

7. When the wounded man is placed in the ambulance, the orderly will replace such articles as have been supplied with the patient, and in turn obtain a duplicate of the same.

8. Each ambulance will carry four extra gas masks, French, for emergency use. *These masks will not be used for exchange.*

9. All cases will be conveyed to Triage and distributed to the various hospitals indicated in announced Scheme of Evacuation.

10. In addition to the ambulance service noted above, ambulances will be stationed at various points throughout the area, as required, to be known as "Ambulance Posts." These ambulances will transfer to hospitals all sick arising in the various organizations in their vicinity, also any wounded that may occur in the locality not otherwise provided with ambulance service.

11. Except in extreme emergency, surgical operations, the probing for bullets, or fragments of any kind, is prohibited outside of a hospital. Treatment will be limited to first aid, splints, control of hemorrhage and shock. Patients will be delivered to the proper hospital at the earliest possible time. Saving of time often means saving of the life of the patients. Patients enroute to hospitals must be made as comfortable as possible and shall be disturbed as little as possible. First dressings will be removed or readjusted only when necessary to see that they have been properly applied or continue in proper adjustment.

12. The combat equipment will be maintained as nearly intact as possible. Timely requisitions for needed supplies will be made to the Medical Supply Officer, who is in position to furnish necessary expendable medical supplies for infirmary use, as well as anti-tetanic and other serums.

G. E. Seaman,
Lieut. Colonel, Medical Corps, U. S. Army Division Surgeon.

Casualties.

The war was undoubtedly the bloodiest which was ever fought, with the possible exception of the Crimean War. In the American Army the losses however were apparently not great. Of every one hundred American soldiers or sailors who took part in the war, two were killed or died of disease during the period of hostilities, while of all the other great nations, between twenty and twenty-five in each one hundred men engaged, were killed or died.

For every American killed in battle, seven others were wounded, taken prisoner or reported missing. Eighty-five per cent of those sent to hospitals on account of injuries have been returned to duty. About half of those wounded were actually only silghtly wounded.

In the American Expeditionary Force the death rate from disease was nineteen per one thousand, and from battle casualties fifty-three. This is the first war in which the United States has been engaged that showed a lower death rate from disease than from battle among the forces actually engaged.

In handling wounded at the front it is most important for the surgeon to know the nature of the contemplated operations and the military problems involved. For while it is impossible for anyone to state in advance the number of casualties that may occur in any particular engagement, we know the casualties that have occurred in previous battles and previous wars, and from that we can make a fairly accurate estimate, and by making a liberal allowance for contingencies, are thus able to determine the necessary facilities.

The provision for the care of battle casualties have usually been estimated on the basis of 10 per cent casualties for one day. In some units this will and frequently has been exceeded, but

usually the battle casualties on the whole will not exceed 5 per cent. If it is heavier at one portion of the line it will probably be lighter at the other, so that a provision for 10 per cent will be sufficient.

In some of the bloodiest battles of the Civil War, the Union side lost as high as 20 per cent and the Confederate 25 per cent, but divided into days it did not exceed 10 or 12 per cent for any one day.

In the Civil War there were instances of single regiments or possibly Brigades that lost 70 to 80 per cent of their strength.

In previous wars ordinarily there has been one man killed to 4 wounded, but in this war the ratio of killed to wounded has not been so high, and there has been a marked decrease over previous wars in the number who have died of wounds. This improvement is due to progress made in methods and means of evacuation as well as to improvements in surgical methods.

Of the wounded brought to the Dressing stations and Field Hospitals, from 6 to 10 per cent are so severely wounded as to be non-transportable and non-evacuable. That is to say they must be treated or operated upon at an advanced Field Hospital.

It is a matter of common observation and common belief that what happens to an injured man during the first twenty-four hours following his injury is of the greatest importance. In fact what happens to him the first six hours after the receipt of the injury is of the utmost importance. I believe that those cases gotten to a hospital where definitive surgery could be done within six to eight hours, were much more likely to show satisfactory results. This was a matter of the most common observation in all the armies, and is a generally accepted fact. The care of the wounded in the advanced zone is carried on under such a variety of conditions and circumstances, and these conditions are so vastly different from those farther in the rear, that it is next to impossible to lay down hard and fast rules regarding the methods of treatment in the handling of the wounded. It is however upon the care and efficiency with which this early treatment is carried out, that the success of all subsequent procedures largely depends. So that, the value of good advanced work under the best possible conditions respecting supplies and facilities for rapid evacuation cannot be over-estimated.

The proper and expeditious sorting and classification of the wounded is an important function of the Medical Department in the zone of advance. This is the function of the Triage.

After passing through some very trying experiences and resorting to various methods and expedients the following scheme was worked out principally at F. H. 127, Major Lorenz, and served admirably in the Commands to which I was attached.

Headquarters 32d Division
Office of Division Surgeon.
31 August, 1918.

MEMORANDUM—To all Medical Officers, this division.

INSTRUCTIONS FOR OPERATING OF TRIAGE THIRTY-SECOND DIVISION.

It is essential that all casualties from the front pass through the Triage.

The following plan of operation, with minor modifications, has been successfully followed by a field hospital of this division. No radical departure therefrom will be made, except by order of the Division Surgeon.

1. *Functions*

I. The function of a Triage, is, in general—

First—The grouping of casualties as to a degree which determines whether they are,

(a) Transportable
(b) Non-transportable.

Second—Their classification as to type of casualty, I. E.

(a) G. S. W.-S. (slight)
(b) G. S. W.-O. (severe)
(c) Psychoneurosis
(d) Gassed
(e) Injured
(f) Sick.

II. Other functions of a Triage are—

1. The rendering of minor surgical aid and medical treatment in emergencies, to make transportable, if possible, cases that would otherwise be non-transportable.

2. The re-adjustment, or renewal of dressings and of splints where necessary.

3. The administration of anti-tetanic serum for immunizing purposes where it has not already been administered. (Accept no evidence that it has been administered, other than a statement to that effect on the diagnosis tag, or the presence of the characteristic sign on the patient's forehead. A statement by the patient that he has had a hypodermic injection must not be accepted as proof.)

4. The preparation of hot drinks and food to be given when indicated.

III. The Triage is not a collecting station, but a means of separating and evacuating with all possible speed, through the proper channels to designated hospitals.

2. *Operation. Records and Reports.*

1. A medical officer shall examine each case as admitted, marking the disposition of case on the back of the diagnosis card with colored pencil. A clerk will then follow to collect the necessary data; the completion of which he will indicate on tag by a fixed symbol, or otherwise. (Cross in circle is suggested.) The non-commissioned officer in charge of litter detail will assure himself that each tag bears this mark before evacuating such case from Triage.

II. Accurate and complete record of all patients will be made, listing casualties separately by,

1st—32d Division
2nd—Other U. S. Units
3rd—Allied Troops
4th—Enemy
and giving in each instance
Name and Army Serial No.
Rank
Company and Organization
Nature of Casualty
Disposition

This information will be recorded on Form 4, A. G. O. S. D., A. E. F., two copies to be forwarded to the Division Surgeon's Office by courier. The period of records thus compiled will be six (6) hours, 6 A. M. to 12.00 Noon, 12.00 Noon to 6.00 P. M., etc.

III. The non-transportable wounded will be admitted to advanced operative field hospital immediately and directly from the Triage Receiving Tent.

IV. A DAILY SUMMARY, for the twenty-four (24) hour period ending 6 A. M. and known as the TRIAGE REPORT will be prepared and sent by courier to the Division Surgeon's office as soon after the closing of the period as possible. (Sample of blank form for this report is attached.)

V. Only those cases admitted to field hospitals will be carded on Field Medical Card and reported on Form 22, A. G. O., S. D., A. E. F. Cases dying in Triage, or enroute to Triage will be forwarded and admitted to a hospital where the necessary records will be made and proper provision made for burial.

3. *Personnel.*

1. The personnel shall consist of two teams; each on a twelve, (12) hour tour of duty, and composed of (as a minimum)

One medical officer,
One non-commissioned officer,
Two clerks,
One stenographer,
Twelve litter bearers,
Two men for kitchen detail,
One ward attendant for each tent in which patients are held, and
Two men for Dispensary and Dressing Room.

4. *Equipment.*

The following equipment has been found adequate:

1. One ward tent or other shelter, as a Receiving Tent, with a capacity for at least 12 litter and 40 sitting cases. When feasible, it should be well lighted.

II. A second ward tent or other shelter, for the temporary care and segregation of the seriously wounded transportables, while awaiting evacuation.

III. A third ward tent or shelter for the temporary care and segregation of slightly wounded sitting cases.

IV. A fourth shelter for those cases classified as sick, or psychoneurotic; which are ordinarily sent to one of the Division Field Hospitals.

V. A small cover, such as is afforded by a 14x14 tent fly, for—

(a) Storage of litters, necessary medical supplies, blankets, etc.

(b) Office.

VI. Equipment necessary for the preparation and serving of food.

Enlisted personnel must be especially trained in their respective duties and instructed as to the function and purpose of a Triage, namely:

GROUPING OF CASUALTIES, CORRECT RECORD, SPEEDY EVACUATION.

G. E. Seaman,
Lieut. Colonel, Medical Corps
Division Surgeon.

The most important work of a Triage, is the proper classification of casualties, to the end that evacuation to the rear of the transportable will be prompt and the non-transportable will likewise be promptly attended to at the advance surgical hospital. The officer who examines the cases and makes the classification at the receiving point, must be a man of experience, judgment and prompt decision. He need not be a skilled operating surgeon. He must be a man who knows a sick man when he sees him. The severely wounded man is always a sick man. Our best Triage officers were of this character, and it was remarkable how quickly and accurately they were able to make the selection of cases.

At first there was some confusion concerning the definition of nontransportable. Generally cases were considered as non-transportable who were showing active hemorrhage, who were in shock, who were suffering from sucking wounds of the chest, that is those involving the pleura, and those who had suffered traumatic amputation in which all the blood supply below the site of the injury had been severed. Cases of compound fracture of the thigh.

Every effort was made to get wounded to a mobile or evacuation hospital within six to ten hours after the receipt of the injury, and therefore as little delay as possible, at dressing stations or at Triage, was permitted.

Cases arriving at Triage in shock were immediately sent to the advanced surgical hospital in immediate vicinity, put upon treatment, and were either operated upon or sent to Evacuation Hospital as soon as the condition warranted.

Considerable delay sometimes occurred in getting the wounded down from the front, and occasionally men would not arrive until fifteen or twenty hours or longer had elapsed since the receipt of the injury. In these cases there might be evidence of gas infection, especially in wounds of the buttocks, calf, and thigh, and these were considered non-transportable and operated upon at once.

All cases arriving at the Triage that showed they were bearing transportation poorly, were kept at advanced hospital and operated upon if the condition warranted.

Occasionally cases that would be transportable under good conditions of traffic to the rear must be regarded as non-transportable where traffic is congested and delayed, and where if sent to the rear they would not be operated upon for probably more than twenty-four hours.

Penetrating injuries of the head were seldom operated upon at the advance surgical hospital. They are usually not suffering from shock. They are generally transportable. They bear transportation better before operation than immediately after. If operated upon at the advance hospital, it was for the purpose of cleansing the wound, removal of foreign bodies, control of hemorrhage, and these wounds were tightly closed, a proper dressing applied and placed at rest for a few days until they could be sent to the rear.

Sucking wounds of the chest regarded as non-transportable, were sometimes made transportable by placing gauze over the wound and strapping tightly. The gauze was not packed deeply into the wound, however. If this did not suffice, the case was operated upon to the extent at least of controlling hemorrhage. Through and through bullet wounds of the chest, showing no evidence of hemorrhage, were not operated upon further than to clean them up and perhaps do superficial debridement of the wounds of entrance and exit where they were dirty.

Wounds of the abdomen, if received within fifteen hours and regarded as non-transportable were operated upon, otherwise they were left alone. If abdominal wounds are received early, they should be operated upon, even at the advance surgical hospital, and the earlier the better. This accords with the best experience in all the armies.

The primary idea in the handling of wounds at the front was to get them to that hospital where they could receive the attention required in the

shortest possible time, recognizing the fact that rapid transportation was the best prevention against infection, particularly gas infection, and meant everything in most instances to the wounded man. Where operation was done, wounds were freely opened, debridement was sometimes extensive, effort was made to remove all devitalized and pulpified tissue so far as possible with reasonable regard to the preservation of function. Sutures were very little used except for closing wounds of the abdomen, chest and head.

The Medical Department of the Commands to which I was attached differed in no essential particular from that of other Divisions. The Medical Officers for the most part were drawn from civil life, and while many of them had some military training, and all of them had had hospital training, practically none of them had had training in war surgery when we were ordered to France. We were very fortunate in having the opportunity of serving for two months or more in a comparatively quiet sector in trench warfare on the Alsace front, during which time a large number of Medical Officers were sent for training to French Evacuation Hospitals and had the advantage of the tutelage of some of the most experienced French surgeons.

Our scheme for the handling of the wounded has been set forth above. The results were generally satisfactory. Let me quote from the records.

On the Alsace front we had approximately 400 casualties from all causes with 50 deaths.

The following extracts are quoted from my report as Division Surgeon after the second Battle of the Marne.

"Practically all wounded went through Field Hospitals. Those needing immediate attention were given attention. Those needing immediate operation were operated upon. Those not needing immediate attention were transportd directly to evacuation hospitals and hospital trains. Three hundred and fifty-eight were operated upon. There were many multiple wounds. Approximately forty per cent of the casualties were treated at our field hospitals and sixty per cent passed through direct to hospital trains or evacuation hospitals, or handled by field hospitals of other divisions."

"Report that the men came down from the front with surgical dressings well applied, and fractures well splinted. This was most gratifying. Many of the dressings had been applied by enlisted men."

"*Casualties.* Casualties, according to latest certified reports are as follows:

	Officers.	Men.	Total.
Killed	26	559	585
Wounded severely	46	974	1020
Wounded (degree undetermined)	16	188	204
Wounded slightly	65	2536	2601
Missing	2	206	208
Died of wounds	11	72	83
Total	166	4535	4701

The following extracts from the report of Major J. W. Vaughan, Division Consulting Surgeon, are quoted:

"Upon the arrival of the 32nd Division A. E. F. in this sector Field Hospital No. 127, commanded by Major Lorenz, was established at Chateau-Thierry to take care of the non-transportable wounded."

Field Hospital 126, Major Nielson, was established for the care of gas casualties.

"Operative teams were chosen from the officers connected with Field Hospital 127 unit and from other units of the Division, according to your instructions."

"The hospital was located in the old school building, Jean Mace, according to the instructions from French Army Corps."

"Upon arrival at this station, the entire lower floor of the building was found occupied by a Field Hospital of the 42d Division. Inasmuch as they had been receiving a considerable number of wounded and had many serious cases on hand, it was impossible for them to evacuate and Field Hospital No. 127 consequently took possession of the second floor only."

"Owing to the fact that only two operating teams had been assigned to the 42d Field Hospital, and they were consequently unable to keep pace with the incoming work, three of our teams were placed at their disposal and attended to their wounded for a period of two days."

"Three teams were also furnished Evacuation Hospital No. 6 located at Chierry which was established two days after our arrival. At this time the commanding officer of this hospital informed me that they were two hundred cases behind and many patients were commencing to show signs of serious infection. These teams served for two days after which it was found necessary to recall them to our own organizations."

"During the period from August 1st, 1918, to August 4th, 1918, 125 wounded were admitted to Field Hospital No. 127 from the 32nd Division. Of these 23 were operated upon. The injuries for the most part were multiple, so that 54 separate operations were performed. These were divided as follows:

Chest	2
Combined chest and abdomen	2
Fractured long bones	7
Soft parts	37
Hand	1
Knee joint	2
Brain	1
Bones of face	1
Spine	1

There were two deaths amongst those admitted to the hospital. A record of the number of operations performed for the 42nd Division was not kept."

"August 3rd, 1918, Field Hospital No. 125 was established one-half kilometer south of Jaulgonne by order of the Division Surgeon. This was done because of the advance made by our troops, and placed this institution eleven (11) kilometers behind the fighting line. This hospital was commanded by Captain R. M. Cooley, N. G., and was equipped with Field X-ray Outfit."

"Unfortunately, owing to the rush of work immediately after establishing this hospital, records of types of injuries were not kept for hospital record, all records being sent with the patients. However, there were 78 cases operated upon with 29 deaths. In addition, 4 were dead upon arrival at the hospital and 5 died shortly after arrival. There was an unusually high percentage of abdominal, chest and head injuries amongst the patients. Most of them had been wounded by machine gun fire during the advance and some had undoubtedly been wounded by explosive bullets such as aeroplane machine guns are equipped with. All cases attended to here were non-transportable only."

"Owing to the continued advance of our forces and according to your orders, Field Hospital No. 127 started to operate August 5th, 1918, at Reddy Farm. This institution was placed approximately 11 kilometers behind the fighting line."

"Up to August 8th, at which time our forces had been mostly withdrawn from the front line, 29 cases had been operated upon here. These cases were severe in type and had 60 different wounds divided as follows:

Comp. Fracture Femur	5
Comp. Fracture Humerus	3
Other long bones	8
Soft parts	24
Knee joints	5
Elbow joint	1
Buttock	5
Head and face	1
Skull and brain	4
Amputations—	
Thigh	1
Hand	1
Sucking chests	1
Small bones, hand	1

There were 20 deaths amongst the 93 admissions. Several of these not being in good enough condition to receive surgical attentions."

"I would respectfully request that in as far as is possible these Divisional operative teams be kept intact to act in the same capacity in the future. They have done good operative work and undoubtedly have saved a number of lives that would have been lost had we been forced to rely solely upon Evacuation hospitals."

"As you are aware the nearest hospital of this type upon our arrival in this sector, was at Coulommiers which is 38.5 kilometers from Chateau-Thierry and this institution was so crowded with wounded that our seriously wounded could not have been attended to within a reasonable time even if transportation facilities had been much better than they were. Even after No. 6 had been established at Chierry, the congested condition of the roads due to troop movements, and the travel from Field Hospital No. 127, at Reddy Farm, to Evacuation Hospital No. 6, a distance of 20 kilometers, could not be accomplished in less than from seven to ten hours. In addition, this hospital was so crowded within 24 hours that it refused to take in any more cases and as stated before, we had to send operative teams to its aid."

"Mention must be made of the good condition in which the patients almost invariably arrived at the hospitals. Dressings and splints were almost always well placed, showing that this work had been carefully performed at the front."

"Evacuation to our hospitals was performed rapidly under the existing conditions showing the

teamwork established throughout, worked in excellent manner."

"In case of renewed activity by the 32d Division, it is requested if consistent with the military situation, that in as far as is possible, the above men and organizations be assigned to the same work again so that we will be in a position to take the best care possible of our wounded."

The casualties in the Medical Department during this battle exceeded 50, including 3 medical officers killed.

The following extracts are quoted from my report as Division Surgeon after the attack on Juvigny, northeast of Soissons, with the 10th French Army.

"At the beginning of the offensive, August 27th, two field hospitals were ordered to Montois, and Triage was established and operated by the personnel of Field Hospital No. 127 at that point. American Evacuation Hospital No. 5 was established the evening of August 27th, at Remy, Villers Cotterets, and was ready for the reception of cases the following morning. Field Hospital No. 126 was established at Chateau Montois for the treatment of gas casualties. Field Hospital No. 125 was held in reserve at Vic-sur-Aisne and its commissioned and enlisted personnel used to supplement other hospitals. Field Hospital No. 128 remained at St. Etienne.

The Triage handled during the period of this report

2619 casualties, 32d Division.
3 casualties, other U. S. units.
74 casualties, Allies.
80 casualties, German prisoners.

classified as follows:

	Officers	Men	Total
Gun Shot Wounds, severe.....	22	583	605
Gun Shot Wounds, slight.....	42	1061	1103
Gassed	9	564	573
Sick	8	321	329
War Neuroses, mostly slight....	6	110	116
Injured	3	40	43
Died en route to Triage.....	..	7	7
Total	90	2686	2776

The Triage kept accurate records of all casualties and reported same every six hours. It is believed that this was of great aid to the Division Statistical Office. The professional skill and judgment shown by the medical officers on duty at the Triage is indicated by the deaths to date of 10 out of a total of 1615 casualties evacuated."

"Field Hospital No. 127 operating as an advanced surgical hospital was located about 200 yards from the Triage at Chateau Montois. Its function was the surgical treatment of the very seriously wounded who could not be transported any further without grave danger to life. During the period of the offensive, there were 284 admissions, 7 of these dead on arrival, of the remainder 40 died before operation and 39 died after operation. Considering the very serious nature of the casualties admitted to this hospital, the majority of them having multiple wounds involving either the head, chest, belly or extremities, this is an unusually good record. On the evening of August 27th, the personnel of the hospital was increased by the addition of Naval Surgical Team No. 1 and Shock Team No. 116. In addition to the above, five surgical teams were organized from the medical personnel of the Division and all did excellent work under the immediate direction of the Divisional Consulting Surgeon."

The Field X-ray equipment again did excellent service.

"Prompt evacuation of wounded was greatly facilitated by the excellence of the work done by Regimental and Battalion Surgeons and enlisted personnel on the field and at First Aid Stations, in the application of dressings, and splints; it was seldom necessary to change the dressings at the dressing station."

The following extracts are quoted from report of Major Vaughan, Consulting Surgeon.

"Since the report last made upon the surgical care of wounded from the 32d Division, several changes have been made in the organization. These changes have been instituted as a result of the experience gained in the Fismes drive, and it is the opinion of those who have had to do the work, that they have facilitated the proper handling of the wounded."

"The chief change was put into effect by the Commanding Officer of Field Hospital No. 127. This consisted in placing of a triage, in compliance with an order of the Division Surgeon, a short distance in advance of the operating hospital for seriously wounded, thus separating it entirely from our advanced operative hospital to which it was attached in our former drive. All wounded were brought to this triage by the division ambulances.

These ambulances were unloaded and immediately returned to the front stations for more wounded. In that way no serious blocking ever occurred at the advanced dressing stations."

"At the triage, the patients were sorted out as to the degree of severity of their wounds."

"The placing of the Triage entirely separate from and slightly in advance of the operating station for seriously wounded, enabled the officer in charge of the same to send only non-transportable cases to that station. Abdomens, sucking chests, serious heads, cases in shock or apparently standing transportation poorly, and those showing evidence of hemorrhage were the only ones sent."

"The total number of wounded was 1,758 up to the time of writing this report. Of these, 256 were sent to the hospital for seriously wounded. Of these 256, forty-one were so seriously wounded that they died within a few hours after admittance. Blood transfusion, intravenous injections of gum and salt solution and other methods used to combat shock failed to be of benefit in these cases. In addition, seven deaths were charged to the hospital, the deaths occurring enroute to the triage, the bodies being brought so that our burial squad could attend to them."

"Operative treatment was given to the 215 cases remaining. Amongst these cases there were 34 deaths. The separate wounds encountered in the 215 cases were 419 in number, and were divided as shown in the following table. The wounds encountered in the cases that proved fatal are also tabulated:

	Wounds in 215 Cases	Wounds in 34 Deaths
Soft Parts	170	17
Soft parts, associated with injury to large blood vessels	7	1
Fractures—		
Femur	14	6
Humerus	15	1
Radius, Ulna, Tibia or Fibula	37	9
Other bones	46	1
Knee joints	5	0
Elbow joints	5	1
Combined chests and abdomens	6	4
Chests (sucking)	41	5
Abdomens, with injury to hollow viscus	25	10
Abdomens, without injury to hollow viscus	11	2
Head and Brain	15	2
Amputations	8	1
Cord injuries—		
Partial	3	2
Complete	1	0
Symptoms present but no injury to cord found	4	0
Collapsed eyes	5	0
Total	419	52

Cases showing evidence of fulminating gas gangrene totaled 8, of these 2 died. Figures were furnished by the Adjutant of Evacuation Hospital No. 5 upon September 1st which showed that up to that time 1635 casualties from the 32d Division had passed through their hands. Of these, 367 were gas cases and 122 medical, leaving 1146 surgical cases."

"Of the latter, 676 were operated upon at No. 5 and amongst these there had been but 6 deaths which showed that the sorting at the Triage had been exceedingly well done. These showed wounds of chest, abdomen, right and left femur, gas gangrene of right and left feet and a case of hemorrhage from a neck wound. These cases had been sent on from the triage at a time when the advanced hospital was filled and it was thought that they might receive attention sooner if sent on. This probably should not have been done and was an error in judgment on my part, as possibly some would have been saved if attended to at the advanced station.

"A good proportion of the cases which so far have survived operation at the advanced institution were in shock, or showed evidence of having suffered from considerable hemorrhage, upon arrival. In fact, the percentage of these cases was so large that a rule was adopted that every case entering the hospital should first be seen by the head of the Shock Team, and that the order in which surgical attention was given was under the direction of the shock team entirely, inasmuch as through their constant observation they were able to estimate when a case should be operated upon much better than could the operating surgeon who was busy with many other things."

"The Shock Team furnished was No. 116 and their work was of inestimable value. I would request that in the future two teams be assigned to

this Division, when in an active sector, so that it will be possible for one to relieve the other. It was found necessary to divide the last team and add one more officer from our own divisional personnel in order that this team could functionate in twelve hour shifts."

"I would again request that two X-ray teams be furnished our advanced operating hospital so that it will be possible to work twelve hour shifts there also. The team attached to us worked constantly without rest for over forty-eight hours and carried on with but little sleep for the full six days."

"As in our former drive, it was found necessary to make up teams from the officers and enlisted personnel of the Division. These were practically the same as those detailed in the report upon activities in the Fismes sector. Six such teams were used and without such resources it would have been impossible to give the seriously wounded the attention required."

"An attempt was made to follow up the cases operated upon in our advanced institution in order to ascertain what the ultimate outcome was. A total of 88 cases were seen in the Base Hospitals in Paris. Of these, fourteen had been operated upon at Field Hospital No. 127 and amongst these there had been one death from gas gangrene."

"Some system of follow-up should be devised whereby a record of these cases can be kept and thus the ultimate value of advanced operative institutions for seriously wounded can be ascertained. It would appear, however, that there is a decided place for small mobile advanced institutions, which should be attached to each Division, especially if our Evacuation Hospitals are to be stationed so far in the rear. Such institutions are absolutely essential in case of an advance of ten kilometers or more if our seriously wounded are to receive proper attention."

The following extracts from my report as Division Surgeon after the Argonne Battle are quoted:

"Evacuation of wounded from front line was accomplished by litter bearers of the Regimental Medical Units, by bearers designated from ambulance companies as required, and by details of litter bearers designated for this purpose by commanding officers of line organizations. Wounded were littered to battalion, regimental and ambulance dressing stations. In many instances and wherever possible, ambulances went forward to regimental and battalion aid stations. All wounded were transported to the field hospitals in divisional ambulances and evacuated from field hospitals to hospitals designated in Corps Orders by Evacuation Ambulance Company furnished by the Corps, supplemented as was necessary by our own ambulances, by trucks of the Sanitary Train or trucks furnished by the Quartermaster Department as required."

"At regimental and battalian aid stations, wherever posible, provision was made for hot drinks, food and rest, and many sick and exhausted men were returned directly from these stations to the line."

"In accordance with instructions, the advanced hospital for gassed and sick, Field Hospital No. 126, and the triage and advanced surgical hospital Field Hospital No. 127, were in close proximity throughout the action. Field Hospital No. 125 was established at Very as a supplementary Triage and advanced Surgical Hospital, and Field Hospital No. 128 was established in the rear for sick and minor injuries."

"The equipment and personnel of all four hospitals were used interchangeably as required. The triage plan heretofore used was again put into successful operation and worked smoothly and satisfactorily, giving at the end of each period correct figures on numbers and correct information in individuals handled."

"During the period covered by the report, Oct. 1 to Oct. 20, there were 4139 casualties, 32d Division, 2589 casualties of other American units, 107 French and 50 enemy handled by the Medical Department. This makes a total of 6939 casualties. In addition to this number, 235 casualties 32d Division were handled by sanitary personnel of other divisions. Of the 4428 casualties 32d Division reported to date there were:

	Officers	Men
Severely wounded	15	628
Slightly wounded	48	2110
Neurosis	4	26
Gassed	17	515
Injured	..	61
Sick	40	964
Total	124	4303

"Of 301 non-transportable wounded admitted to the advanced surgical hospital, 176 were evacuated to the rear after operation or treatment. 125 died,

79 of them being in profound shock when admitted and dying without surgical operation, 46 died during or following operation. In addition to this, 13 cases were dead on arrival at the hospital."

"It is believed the above figures show that as to the result of greater experience a keener discrimination was shown by Medical Officers during this battle in the sending to the rear of gassed, sick and "War Neurosis" cases. Very few of this Division reached the hospitals who were fit for duty at the front."

"No operating teams or Consulting Surgeon having been designated for service with the Division, teams were organized from our own personnel as heretofore and Captain Thomas P. Shupe and Lieutenant James P. Dean were designated by the Division Surgeon to alternate as Consultants. Entire surgical work was done by our Divisional personnel. During several days of the action, Major Harlowe M. Brooks, Major John A. Hartwell and Major George Draper, while on a visit of observation, gave most valuable advice and voluntarily rendered excellent service in the operating room and the shock ward."

"Of necessity, the advanced hospitals were well to the front and during almost the entire course of the action were subjected to danger from artillery fire. One patient was wounded by shrapnel while in the hospital, and one sergeant and one private of Field Hospital Company No. 126 were killed by fragments of shell. In addition to above, 1 sergeant and 5 privates, Medical Department, were killed in action. There were 68 other casualties, Medical Department, of which 7 were officers."

"I am pleased to report that I believe every Medical officer and man did his full duty under the most trying conditions during the long period of the present offensive."

The surgery of the Field Hospital at the front is that of the non-transportable and the non-evacuable.

Those who cannot be transported further without almost certain loss of life; from hemorrhage, from chest or abdominal wounds, some cases of compound fracture especially of the thigh, from profound shock.

It was in these desperate cases that the best work was done. Then there is the question of dealing with infection, especially where there was great delay in getting the men down from the front, and where in some instances evacuation is slow and difficult and distances are great.

Definitive surgery in war without doubt is better done wherever possible under the more favorable condition of the Evacuation or Base hospitals, but some of it must always be done at the front. True we had at the Field Hospitals thirty to fifty per cent of deaths, but those who lived fifty or seventy per cent constituted a net saving. They were so to speak, as "brands snatched from the burning".

The men who performed this duty represented all classes of professional men, many of them with little special training in general or traumatic surgery before the war, many of them were general practitioners in the cities and country districts, ordinary average practitioners of medicine. It was remarkable how readily they adapted themselves to the situation, how well they met the trying condition, how devoted they were, and what really excellent service they rendered to the wounded. With very few exceptions their services met all reasonable expectations. I pay my tribute to them, and would maintain the truth of the above even in the presence of some distinguished surgeons, who from the quiet and comfort of positions far in the rear, were disposed to be critical and to indulge in academic discussions about what we should and should not do in the zone of the advance. Some of them who came up and spent a few hours or a few days at an advance surgical hospital invariably went away convinced that after all, the work was worth while and that the place to save lives was at the front where the men could be seen within the first few hours after being wounded.

Experience in this war has proved that irrespective of their training or work in civil life, men are not competent to do war surgery until they have been trained in war surgery, acquire experience, know the accepted methods, have become familiar through both sight and touch with the conditions of tissues that have become devitalized by the effects of projectiles.

The greatest single advance in the surgery of the war without doubt is debridment and the primary suture by the method of Lemaitre, and do not forget that this was worked out at the little French Field Hospital at Jouchery within the range of the enemies guns by a Field Hospital man who never laid claim to being a great surgical authority.

I cannot speak too highly of the character of

the work of the Medical personnel from Wisconsin, Michigan and from other states, who served with the commands to which I was attached, their patriotic devotion, their loyalty to the interests of the men, their enthusiasm, their resourcefulness does them the highest credit and reflects honor and glory on the profession to which we belong.

It would be unfortunate indeed if some benefit to humanity and some valuable lessons for the medical profession did not come out of the wreck and ruin of the worst of all wars. It is perhaps too early to draw conclusions because the records have not yet been made up, and will not be for a long time to come. But finally the lessons will be drawn from the records and facts and from the reasonable deductions to be made therefrom, and so we may perhaps escape well founded criticisms if at this time we express a few opinions based upon observation even though these opinions may in the end prove not well founded.

GUN SHOT WOUNDS OF KNEE JOINT.

There was a great advance made in the treatment of gun shot injuries involving the knee joint, principally on the lines pointed out by Wilhelms of Ghent, free incision on the inner and outer aspects of the joint, discharge of septic material, thorough washing out of the joint, cleansing of the wound, a suitable splint and this followed by movements of the joint every four hours with the result that in the vast majority of cases a movable joint was secured instead of a stiff joint which formerly in these cases was considered the desirable result.

THE TREATMENT OF WOUNDS.

The Carrel-Dakin treatment of contaminated or infected wounds is undoubtedly one of the great surgical results of the war.

These methods properly applied materially controlled infection and suppuration but after all did not banish it entirely and up to the last suppuration of wounds was still frequent in most hospitals. As stated by Carrel himself, perhaps not more than 10 per cent of the good results of his method were due to the chemical action of the solutions used and 90 per cent was due to proper surgical procedure and good surgical care. This accords with the conclusion of the Allied conference of British, French, Italian and American surgeons, that is to say, thorough removal of damaged tissue, wide open wounds where drainage was necessary, primary suture where the conditions warranted and the case was seen early, delayed primary suture and secondary suture in all other cases, together with the Carrel-Dakin treatment gave the best results.

There is perhaps some danger in the fact that men from civil life without a great deal of training in surgery who were by force of circumstances called upon to do war surgery in the advanced zone and who did a great deal of it, may return to civil practice and lacking the fundamental training and experience in civil surgery may perhaps seek to apply methods and practice which they learned in war to the somewhat different conditions of civil surgery. These men may have some things to unlearn and they will doubtless succeed in doing so. There is no doubt, however, that much of the war treatment of wounds, the principles of debridement, the use of the primary suture will be applicable to the accidental surgery of civil life.

Primary suture and debridement was developed by the French and British before we entered the war. Debridement is the removal of all devitalized tissue in which bacteria so readily grows and multiplies. Bacteria do not as a rule grow in normal healthy tissue. Debridement removes the pabulum, the culture media, and primary suture and primary union is thus made possible.

All calculations in advance for the care of wounded in this war were made with the idea that the vast majority of wounds would be from rifle bullets. As a matter of fact only 25 per cent were from rifle bullets and nearly 75 per cent from high explosives, fragments of shell, grenades or shrapnel.

There were very few bayonet wounds for two reasons. Hand to hand fighting was not common and if it did occur death was the usual result.

CHEST WOUNDS.

One of the most interesting phases of the surgery of the war and perhaps one of the most distinct advances in surgery, which shall prove applicable to the surgery in civil life, is in the management of injuries to the chest and particularly to the lung. Except in empyemeas, surgeons hesitated to open the chest previous to the war.

In the early days of the war, the mortality from chest wounds was very high, but under the better methods developed by experience great improve-

ment has taken place, so that after the first two years of war, with some of the most expert operators, including all cases, the most urgent as well as the less serious wounds, the mortality was reduced as low as 9 per cent. But the total mortality rate of lung wounds, based upon the figures of more than three thousand cases and from various hospitals and operators, I am told equals 20 per cent. However, much progress has been made which I am sure will be reflected in the better results in the treatment of chest injuries in civil life.

SHOCK.

Notwithstanding the numerous theories, the etiology of shock is still as mysterious and unexplained as ever. During the war a great number of observations and a great number of experiments have been made, resulting in more widely different theories as to the etiology than ever before. Until the exact causation has been found out and until the differentiation between shock due to traumatism and that due to hemorrhage is more clearly established, the therapeutic measures to be adopted will still be uncertain and varied.

There is no doubt however that the war has brought about a vastly increased knowledge of shock and of its proper treatment. With us the best results were obtained by securing warmth, physical and mental rest, the administration of morphine, the careful administration of food where there was no contra indication and by blood transfusion.

The use of blood transfusion together with careful grouping, by a large number of medical officers, who are now familiar with this work, will result I am sure in a wider use of this method in suitable cases in civil practice. Blood transfusion was done in a large number of cases in our Field Hospitals by the Citrate method, and usually, I believe, with results that warranted the continuance of its use in the treatment of shock.

FRACTURES.

Nearly all fractures from battle casualties are compound. The most important consideration in the treatment of a fracture is the proper application of a suitable splint at the earliest possible moment. There is nothing equal to the Thomas splint which was used almost to the exclusion of all others, especially in fracture of the femur. Through the work of the Orthopedic section, all surgeons early had the opportunity of mastering the use of the Thomas splint, and many of our enlisted men became expert in its use. It is the ideal apparatus for transportation, is easily applied, allows traction and alignment to be maintained, and enables one to easily reach the parts for the application of treatments and dressings.

I believe that this old splint which had fallen into disuse has demonstrated its superiority and will be more widely used in civil practice.

Without doubt important and substantial advances were made in the special field of maxillofacial surgery, to which very great contributions are to be credited to American surgeons.

PROLAPSE OF THE UTERUS AND ITS SURGICAL TREATMENT.*

BY W. E. FAIRFIELD, M. D., F. A. C. S.,

GREEN BAY.

In this paper I shall not endeavor to present anything that can be designated as original, but I will attempt to bring together a few facts connected with this subject which I may be allowed to hope we can advantageously study and discuss.

In all of the older literature "Falling of the Womb" occupies a conspicuous place, and those of us who were in practice as many as thirty years ago can remember the vast number of pathologic and even physiologic conditions which were grouped and treated under this head. The physician was and is slow to realize that displacements of the uterus per se are not of grave moment. That the uterus is placed in the pelvis and surrounded and supported by structures whose everchanging conditions permanently and inevitably preclude the possibility of that organ remaining normally in a fixed position, and that when the uterus becomes so fixed, that fact alone makes the case one of disease and not of normal character.

We are all conversant with the history of the apprehensive woman who, because of some unusual sensation of very minor import, comes to the office for treatment for "Womb trouble". Examined with a full bladder, the case is one of retroversion. With a full rectum, it is an anteversion, and with both conditions present the case is "fairly nor-

*Read before the Wisconsin Surgical Association, May 9, 1918.

mal", unless there is a slight decensus, in which case, in many hands, "treatments and pessaries" mark the introduction of a true pathology. One does not like to contemplate the days when women came into the office to have the uterus elevated or tilted, often by the introduction of a sound or other form of repositor, and under circumstances and surgical surroundings few could claim to be ideal.

It is not my purpose or design to condemn all such manipulations, but only to warn those who still adopt this practice that they should carefully and conscientiously inquire whether the resulting harm produced in one case does not outweigh the good obtained in others.

There are conditions which must be met by treatment other than surgical. Indeed, there are many that positively require medical treatment previous to the surgical, but may we not question the advisability of applying treatment under conditions that make ultimate infection almost a certainty?

A woman with a slight decensus and a subinvoluted uterus can often be cured by treatment of the subinvolution alone: Rest in bed, attention to the bowels and tonic treatment. All of the support necessary can be gotten by elevation of the hips and regulation of the evacuations, and the re-establishment of a normal pelvic circulation by reason of the reposition of the heavy descending mass is the most efficient factor in the involution process. I speak of these cases, although my paper presumes to treat upon the subject of surgical prolapse, and it is done advisedly, to the end that non-surgical cases may not find their way into the operating room.

Practically all papers of recent years commence with a resumé of the anatomical conditions and the effect of traumatism to the muscles and fascia forming the pelvic floor. They point out the fact that a decensus is a true hernia and the treatment advised is based upon a restoration of the normal anatomy. While it is true that damage to the pelvic floor permits a hernial decensus, we must not forget that even with such destruction, prolapse cannot occur until the superior supporting attachments of the uterus are also injured or destroyed, and that, therefore, it is not sufficient to repair the pelvic floor, if the surgeon is desirous of obtaining for his patient a condition approaching the normal. No amount of repair of the perineum and lower fascial plane will arrest an established vaginal intusseption, nor will it do more than retard the descent of the wedgelike uterus when that organ's weight is forced into the natural pelvic os in consequence of the destruction of the supporting fascial and ligamentous attachments of the uterus itself.

A pelvic fascial opening which can be dilated in a few hours to permit the passage of a 10-lb. infant cannot, by any manner of reasoning, be expected to resist the descent of a body exercising continuously and exactly the same mechanical force.

It can be reasonably asserted, therefore, that while the perineal and lower fascial structures are indespensably necessary to support all of the pelvic contents, they are not so vital as to permit us to look upon the superior ligaments and fascial attachments as non-essential. In other words, any successful system of treatment must take into account both the medical and hygienic care, and, in addition, the surgical treatment must aim to restore not only the condition which permits descent through destruction or alteration of fascial impedimentia, but it must also strive to restore the natural suspensory apparatus of the uterus, vagina, bladder and rectum.

I will not attempt to describe all of the operations recommended and practiced by eminent surgeons and gynecologists, but will briefly refer to a few of them for the purposes of this paper. I will purposely omit mentioning such operations as the Alexander and other minor surgical repairs, as not worthy to be classed as operations for decensus, but rather as useful adjuncts to such operations.

The route of surgical attack has been from below, from above, or from both directions.

In 1888 Schücking first performed a vaginal[1] fixation. No incision was made, but with a special carrier he sutured the anterior vaginal wall to the uterus, aiming to avoid the bladder. Needless to say, this was not always possible and the operation was abandoned. The benefits of fixation, however, were established and other technique naturally suggested itself.

Sänger[2] suggested a division of the anterior vaginal wall, and a separation of the bladder, which was to be elevated. The uterus was then to be pulled forward and sutured to the anterior vaginal wall, beneath the bladder. The modern interposition operation is evidently but a refinement of Sänger's procedure suggested in 1888.

Dührssen advocated a similar operation about[3] the same time.

In May, 1892, Mackenrodt[4] reported and described his vaginal fixation, which was carried out practically as suggested by Sänger. The peritoneum was exposed, but not opened, and the purpose of the operation, regardless of results, appears to have been to raise the bladder and suspend it as highly as possible from the semi-fixed uterus, stopping short of opening into the peritoneal cavity.

In 1894 Kuster[5] boldly invaded the peritoneal cavity in the performance of the operation of vaginal fixation, and Dührssen followed him—placing his sutures almost, if not quite, at the apex of the fundus.

The great obstacle to the universal adoption of this operation of vaginal fixation was the frequent dystociae encountered in the child-bearing. Surgeons were, therefore, driven to an attempt to secure the benefits, and to eliminate the disadvantages of the operation, and naturally recourse was had to the very logical procedure of operating upon the natural ligaments and supports rather than to attempt the fixation of the parts with consequent anatomical and physiologic disturbance.

Vineberg[6], and at about the same time Wertheim,[7] published a description of a vaginal operation for shortening the round ligaments aiming to avoid the dystociae of the old fixation operation.

Gottschalk[8] in April of the same year (1896) and Bovee[9] in 1902 were the men whose pioneer work upon the technique of vagino-intraperitoneal shortening of the utero-sacral ligaments made a recognition of these structures a factor in all subsequent operations.

Both Alexander[10] and Tweedy[11] (1903-1905), recognizing the important role of the descending bladder, attempted to bring relief by separating that organ from the uterus and elevating it—getting support for the vagina, bladder and uterus by uniting the broad ligaments in front of the uterus.

For most of the preceding historical information I am indebted to the highly interesting article by Dr. Lewis F. Smead,[12] which appeared in the January, 1916, number of the American Journal of Obstetrics.

I will only mention the interesting fact that during the period when vaginal fixation was in vogue to the all but exclusion of other forms of procedure, vaginal ventro-fixation of the uterus was advised and practiced by Wertheim.[13] One can readily understand the accidental injuries to bladder and other viscera which made this operation unpopular.

Up to this time, the principal object of the operators was the correction of retro-displacements. I will not attempt to give the history of the development of the modern transposition operation further than to say that it was conceived by Dührssen[14] who performed the operation and published a description of it in 1894.

In 1899 many articles were published upon this subject. Watkins,[15] Wertheim,[16] Stone,[17] and Schuata[18] published notable articles.

Watkins' description of the operation of transposition [19] which appeared in Surgery, Gynecology & Obstetrics for June, 1906, elucidated the several steps of the operation and established the procedure upon a sound surgical basis. To this operation various additions, or possibly only modifications, have been made, each designed to assist and strengthen the various objects of the Watkins operation.

Franklin H. Martin in November, 1906, read an article before the Chicago Gynecological Society in which he described his technique, which modified the then practice of the Mayos who removed the uterus per vaginam and sutured the broad ligaments to the anterior and posterior vaginal columns. Martin removed the uterine body and sutured the broad ligaments, the round ligaments and the peritoneum with its folds forming the utero-sacral ligaments to the cut surface of the cervix, thus securing suspension of the vagina. He distinctly states that the object is "The support of the upper end of the vagina", and he cites the fact that other successful operations, such, for instance, as the Watkins-Wertheim, are largely dependent upon that principle.

Watkins in 1909 advised a modification of his operation applicable to cases of complete prolapse with a large uterus and much broad ligament elongation. He had formerly divided the ligaments at their junction with the uterus and united them *in front of the cervix.*

He learned that this procedure produced a "constriction of the vaginal canal in front of the cervix and pulled the cervix downward, instead of pushing it upward."

He advocated partial excision of the uterus, removal of the entire endometrium, union of the re-

maining lateral portions of the uterus by suture after which the uterus was interposed as in the original operation. It is evident that the removal of a portion of the body of the uterus and the endometrium has for its object the shortening of the broad ligaments when the remaining walls are brought together, and the amount of uterus sacrificed is dependent upon the degree of elongation of the ligaments it is desired to correct.

C. H. Mayo, in March, 1915[21] described his procedure: "In patients 45 to 65 years of age—often with atrophy and distension of the vaginal outlet," and other marked changes contraindicating intra-abdominal support. A vaginal hysterectomy followed by side to side union of the cut broad ligaments as well as of the round ligaments so sutured as to allow the bladder to rest upon them rather than upon the uterus as in the Watkins.

It is evident that this is a simple modification of the Watkins operation in which more extensive shortening of the ligaments is effected by removal of the uterine body, thus allowing them to be more effectually plicated. Indeed, the repair of the fornices is the curative measure in all of these operations, and the uterus transposed can give no support to the bladder unless this measure is accomplished. It is true that the uterine body acts as a truss for the retention of the bladder above the split in the vesio vaginal fascia, but it is also an added weight and a rather useless impediment, since this fascia can be repaired without its transposition.

Nineteen hundred sixteen and seventeen have been productive of a large number of ably written papers upon this subject.

Frank of New York[22], believes that the interposition operation is "unsatisfactory when applied to cases of prolapse," and he emphasized the necessity of restoring the normal anatomic relations. His paper, which appeared in Surgery, Gynecology & Obstetrics in January, 1917, is a valuable contribution to this subject. He lays particular stress upon a separation of the levator muscles and stretching of the triangular ligament as a predisposing cause of prolapsus.

While there is nothing particularly new in this observation, he demonstrates the condition so lucidly that one is well repaid by a study of his paper. Too many cases are operated in a rather haphazard manner, leaving the impression that the surgeon is not sufficiently impressed with the useful supporting qualities of the normal floor, as formed by the perineum and lower fascial plane.

The mental attitude of the operator must also be changed, in that it must become generally recognized that the repair shall be a true restoration, and not a tissue in terposition. We should endeavor, whenever it is possible, to restore and suspend, and only in those cases where this seems impossible should we resort to the mutilating devices.

Practically all gynecologists and surgeons are agreed that the transposition operation is admirably adapted to those cases of prolapsus in which there is neither too much atrophy or too much subinvolution, and in which the relaxation is just sufficient to be remedied by the necessary torsion of the ligaments, which is the most important feature of the operation.

All are agreed that if the patient has not reached the climacteric period, sterilization should be practiced by division of the tubes in the cornual attachment and by burying the uterine end as the appendiceal stump is buried. When the relaxation is too great it may be necessary to remove a portion of the uterus, or to bring the broad ligaments across in front of the cervix to get the desired shortening. It may even be necessary to abandon the transposition and to do a vaginal hysterectomy with a suspension of the bladder and vagina from the ligaments as practiced by the Mayos[21].

But there will remain a certain number of cases which, unfortunately, do not seem to be amenable to vaginal treatment. Cases in which the relaxation and prolapsus are extreme and cases in which such remedial measures have not given results, and the patient, discouraged and depressed, demands to be assured of relief before she will submit to further surgery.

In these cases, after repair of the perineal floor, I think one should approach the organs through the abdomen, particularly in cases where, by vaginal elevation of the uterus, one can be assured that it rises easily above the pubes and consequently will permit of extra peritoneal fixation without dangeous tension.

The Butterfly operation of Murphy appears to be a rather formidable one, and it certainly is a monstrosity among operations, and yet the after results are very gratifying.

I have one objection to it, which may be due to my faulty technique. I have never been able to avoid the discharge through the wound of dark

colored blood for a more or less extended period—in one case for three weeks. After free and complete removal of the endometrium, I have never been able to secure a dry surface, and, unlike slight oozing in other regions, it has been persistent for several days—never dangerously abundant, but always annoying.

One of our cases operated before the climacteric, and in which the ovaries were transplanted with the divided uterus, develops pain in the abdominal wall at each menstrual period, and has a slight menstrual discharge from the cervix. She is so much relieved by the cure of the prolapse, however, that she makes little complaint. It is my belief that all of these cases should have the tubes divided and the ovaries so freed that they will drop back into their usual pelvic location.

The operation of Helmuth[30] has given very satisfactory results in the author's hands, and it appeals to me as adaptable to those cases of extreme relaxation demanding radical treatment. Briefly, his technique is as follows: Through a median incision he exposes the uterus and divides and ligates its lateral attachments down to the internal os, as in an abdominal hysterectomy. After carefully suturing the divided peritoneum, he incises the sheaths of the recti muscles on each side of his central incision and about one-half inch from its border. He then bisects the uterus down to the junction of the body and cervix, removes the endometrium, draws each divided half through the respective openings in the recti. He then unites the uterus hemispheres and that organ remains supported by the band of rectus sheath. This arrangement should give a firm and permanent point of fixation, and any oozing that occurs will find its way downward into the vagina.

In performing ventro fixation, it is conceivable that a case may be encountered in which a cystocele of large dimension will not be sufficiently corrected by the elevation of the uterus alone. In such cases, an anterior separation of the bladder from the uterus with a fixation of the bladder high enough to give the proper elevation is a matter easily accomplished. Though this will not restore the vesico vaginal layer of the endopelvic fascia, which is the damaged structure in cystocele, the uterus will block the opening.

Fitzgibbon[28] has written and illustrated an article upon the Etiology of uterine prolapse, which is based upon a careful study of the disposition of the supporting fasciae, and without going into detail, I wish to give a few of his conclusions.

"Prolapse of the uterus and cystocele are due to damage of the pelvic fascia in the region of the lateral fornices and in front of the cervix. Laceration of the perineum and levator ani muscles has no part in the production of the prolapse. The fascial diaphragm can be repaired without interfering with the function of the uterus or dislocating the bladder. The condition can be treated exactly the same before and after the monopause."

In his very valuable paper which appears in Surgery, Gynecology & Obstetrics, July, 1916, he gives Alexandroff and Tweedy credit for establishing the operative principles. He maintains that all vaginal operations which produce a cure, do so by reason of the repair done to the endopelvic fascia in the region of the fornices and anterior to the cervix. To those who have not studied this subject carefully in the light of the anatomy I strongly recommend the very able contributions of this Dublin Gynecologist.

It certainly seems desirable that some less mutilating operation than the Watkins interposition, the Murphy fixation or the Mayo ablation, should be devised to meet the existing defects. Aside from the surgery of repair I am of the opinion that great good could be accomplished by insisting that labor shall be performed by the parturient woman, rather than by the obstetrician. That the application of forceps through an insufficiently dilated os, followed by traction, which is transferred to the uterus itself by reason of the non-dilation is a potent cause of decensus, I firmly believe.

It is a crime to apply traction before there is sufficient dilatition, and I find it being done so universally by the younger obstetricians (?), that I am forced to conclude that the teaching these men have received must be faulty. Even the expulsion of the placenta by the Crede method is so applied by some men as to endanger the parturient's future. The object seems to be solely to secure the placenta, and that as quickly as possible, regardless of the force used or the character of that force.

If these practices are to continue, some day an enterprising midwife will decide to present statistics to prove that her end results are better than those of the obstetrician. She will have no difficulty in procuring the statistics. It is only through the obstetric teachers of our medical

schools that we can hope to quickly reach and remedy these very glaring faults in present day obstetric practice.

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DISCUSSION.

President H. M. Brown: Gentlemen, you have heard the very excellent paper of Dr. Fairfield. That paper is also open for discussion. It is a question whether, at this hour, we are competent, on account of an excess of food in our stomachs, to discuss either paper with credit to ourselves; but that is for you to decide.

Dr. Chester M. Echols, Milwaukee: I do not wish to discuss the papers; we all think it is time to go home, but I want to say a word or two with reference to the last paper:

The matter of diagnosing early prolapse I think is of considerable importance, and I should examine all these patients first in the standing position. It is impossible to get a very accurate idea of how much prolapse there is of the bladder or uterus when a woman is lying over on her back, even if you have her cough and strain. Therefore, I examine these patients first in the standing position; and it is many times a revelation to find how much more prolapse of the bladder one discovers in a patient in that position than when the patient is lying down.

Another point is in that the majority of these cases of first and second degree prolapse it is the cystocele, rather than the prolapse of the uterus that causes the woman trouble, and causes her to seek the doctor and the surgeon. In the majority of cases the bladder has a tendency to precede the uterus in its descent. After experimenting with a great many forms of operations I have come to use and appreciate the Watkins interposition operation, with some modifications; and use it a great deal and very satisfactorily. It has been said that the average general surgeon often does his poorest work in plastic work about the pelvis, and especially prolapsed uterus. I have rather been impressed with the number of patients who have been operated on by the best surgeons in the state who have come to me after a year or two years with a complete return of the former condition, notwithstanding the surgeon promised that there never could be any return; the bladder down as far as ever, and the same old symptoms.

Just one other point, and I will close: In cases of total prolapse of the uterus it is surprising how many surgeons there are of the type that Dr. Mason referred to. The first thing they think of, when they see this hanging down between the thighs, is hysterectomy. Such cases usually occur after the monopause, at a time when the uterus is considerably atrophied. How much good is it going to do to take out a uterus which is not much larger than a man's thumb, with the idea that that is going to have any effect on curing the prolapsus. It is not the weight of that light mass. It is a hernia. Unless we bear in mind that the uterus plays no important part in a woman after she is fifty or sixty years of age, we are bound to have a failure. Some of the most aggravated cases have been where the uterus has been taken out, and they have come back with a total prolapse or hernia of the bladder. In such cases about the only thing to do is the radical operation of skinning out the whole lining of the vagina, and obliterating it, so that we have one wall of the vagina grown hard and fast to the other as the only possible way of curing such a hernia.

INDICATIONS FOR DAVIS CAESERIAN SECTION.*

BY R. W. ROETHKE, M. D.,

MILWAUKEE.

Since I cannot cover more than one small part of the subject of Caesarean section in my allotted time I have limited myself to the indications for the Davis type of operation. To refresh your minds about this operation I will say that it consists of a high small incision of four inches from the navel upwards; that there is little hemorrhage when perfect team work is employed; that the suturing is very simple, and that the entire time of operation varies from fifteen to twenty minutes. There is very little manipulation of the belly contents, little tendency for adhesions and very little chance of a weak abdominal scar. The mortality in uncomplicated cases is about one per cent and in cases with organic disturbances, long labors with much manipulation or local infections, the mortality runs from three to ten per cent.

It is not a last resort operation but is best and safest if you have made your determinations early. It has been repeated as high as six times on the same patient. The Saenger, the most commonly performed Caesarian, still has a place in case of necessary tumor removal or contraction ring, and the poro still is the operation of ruptured or infected uterine musculature. The Sellheim or modern transperitoneal-extraperitoneal is best where there has been much manipulation from below, but the old type of extraperitoneal has no place at all. To discuss more fully these different types of operation would take too much time.

In general the indications for Caesarian have changed, especially since the Davis type has come to the fore. With our present surgical methods, the low mortality of the Davis under the proper circumstances, and the doing away with the last resort idea we no longer operate only these cases where birth is impossible by other means. The doubtful chance of a much damaged baby is sufficient excuse, or to insure a live baby after successive losses in previous births. I will bring out the special points in my classification. Since most of my cases have had more than one complication I have selected a certain number and have borrowed a few from other men to fill out the full number of modern accepted indications.

CASE 12. Mrs. H., 35 years old. General contracted pelvis, 7½ c.m. outler and flat sacrum. History of one previous forceps delivery after five days of labor. Child delivered dead and mother paralyzed in both limbs for three months due to nerve pressure. Child's head in present instance too large to enter inlet. Caesarian without trial labor.

CASE 4. Mrs. B. 34 years old. One child nine years old and still bearing forceps dents in its head. On examination I found a flat pelvis and a very long scarred cervix. The child's head floated above the brim of the pelvis and the partiatal eminence projected to the anterior surface of the pubic bone. Trial labor failed as head could not be brought down sufficient to produce expulsive pains. Caesarian section.

CASE 14. Mrs. K. 30 years old. Flat pelvis and child's head in same disproportion as in foregoing case. Child of ten pounds two years before by forceps; dead. Patient also had third degree tear. No descent of head in spite of active labor and normal cervix. Caesarian produced a nine pound child.

CASE 26. Mrs. B. 21 years old and primipara. General funnel pelvis with 6½ c.m. outlet. Child's head too large for pelvic inlet. Caesarian at term without trial labor.

CASE 8. Mrs. E. Age 25. Two previous children dead by forceps after three and five days labor respectively. Bladder and urethral injury after second delivery incapacitating patient for a year and requiring two repair operations. Funnel pelvis with broad pubic bone horizontal and child's head resting directly on bladder. Caesarian at term without trial labor.

CASE 9. Mrs. F. 21 years old. One child dead by forceps. Pelvis identical with case No. 8. Case was torn into rectum by previous delivery and also from the body of the uterus through the bladder and urethra. Two repair operations with only a partial result and much scar. Caesarian at term without trial labor.

CASE 1. Mrs. M. 45 years old. Six previous children normally. Cervical and perineal repair before last pregnancy. Six days of labor without

*Read before the Surgical Section, State Medical Society of Wisconsin, Milwaukee, Oct. 2, 1918.

any progress. No dilatation and child's head too large to enter inlet of pelvis. Complete exhaustion of patient not admitting time for the Sellheim operation, therefore the Davis was done on account of speed.

Case 3. Mrs. B. 21 years old primipara. Sacr cervix due to old gonorrhea and undilatable; myocarditis and threatening eclampsia. Caesarian after effort to dilate cervix failed.

Case 7. Mrs. E. 35 years old and fourth pregnancy. Previous children lost in delivery due to prematurity. Pelvis normal but servix hard and two and one-half inches long. Breech position and absolutely no water. Caesarian by choice of patient to produce living child without taking any chances.

Case 10. Mrs. G. 30 years old and second child. First child dead by general disease. First delivery was normal but third degree tear including four inches of rectum resulted. Injury was perfectly repaired but the perineum had absolutely no elasticity. Caesarian was done to save repetition of injury.

Case 11. Mrs. K. 45 years old and one previous forceps delivery. Central placenta praevia and hemorrhage profuse. Pulse 140 and temperature 97. Cervix dilated one finger and head too large to enter inlet. This is the only section I did out of forty-five cases of placenta praevia.

Cases 15 and 24. Mrs. B. and Mrs. K. Primipara, 41 and 21 years respectively. Cases identical. No labor. Premature separation of placentae and hemorrhage just beginning to cause pulse rise in the mothers and irregular heart beats in the babies. No cervical dilation, nor softening. Cases were in hospital and by Caesarian we saved both mothers and both babies. For these cases I thank Dr. Beffel.

Case 16. Mrs. L. 24 years old and primipara. Funnel pelvis not serious. Ovarian cyst adhered in pouch of Douglas and size of baby's head. Albumen in urine, full term but no labor. Caesarian.

Case 17. Miss M. 21 years old, illegitimate primipara. Exopthalmic goiter and threatening eclampsia of low blood pressure type. Lower delivery impossible because of congenital tubular vagina that would admit one finger under great pressure. Caesarian at term without trial labor.

Case 18. Mrs. McB. 21 years old. One child lost by previous forceps. Pelvis normal. Cervix very long and scarred extremely. Dry labor so violent that after seven hours uterus threatened to rupture and baby's heart went down to one hundred and was irregular. Cervix did not dilate at all. Caesarian as emergency.

Case 19. Mrs. D. 22 years old and full term. Mother was not in labor but had been in convulsions for twenty-four hours. Caesarian as emergency and dead twins due to toxaemia.

Case 13. Mrs. H. 34 years old and primipara. Tixic for a week, and seven and a half months pregnant. Patient not in labor and cervix long and not softened. Patient in state of change: Mind becoming more hazy, urine less and blood pressure rising. Patient had first convulsion while operating room was being prepared and continued for forty-eight hours. Caesarian as emergency.

Case 22. Mrs. L. 32 years old and one child dead by forceps. Pelvis normal. Former appendix operation in which right side of uterus was removed. At full term patient had space size of head on right side of uterus which consisted of thin membrane and which would not stand strain of labor. Caesarian before labor to prevent rupture.

This case illustrates the necessity of Caesarian where uterus scars cannot be trusted to stand labor strain. It is dangerous to attempt a lower delivery on a case that has been delivered by Caesarian unless the delivery promises to be extremely easy. This was known very well as early as the seventeenth century.

Case 23. Mrs. P. 33 years old. Former child dead by forceps after long labor. Funnel pelvis capable of passing about a six pound child. Scar through uterine muscle due to removal of large fibroid. Scar incapable of standing labor strain under circumstances, therefore Caesarian before a labor to prevent rupture.

Case 30. Mrs. N. 26 years old and epoleptic. Pelvis normal and first child alive by forceps after weak labor. Second pregnancy went three weeks over time in spite of attempts to start labor. Child's head got so large that it raised out of pelvis and rode on pelvis brim. Cervix stayed long and hard. Caesarian by choice of patient and twelve pound child delivered. This case is again pregnant and will require a second Caesarian before labor set in as cervix is not of the easy dilatable kind.

CASE 31. Mrs. G. 45 years old. Six children normal previously. Case referred to by Dr. Kastner to our outpatient department of Marquette University. Cervix was hypertrophied to such an extent that it filled the entire pelvis and protruded from the vulva to about the size of a large grape fruit. It was hard for patient to urinate and to defecate. Caesarian because lower delivery was impossible.

CASE 33. Mrs. M. 33 years old and primipara. Pelvis of pronounced spondylolisthetic type. Caesarian.

In the East I saw Caesarian done by Hirst, Davis, etc., for split pelves, Roberts and Naegele pelves and for various types of dwarf pelves. These types seem rarer in the Middle West. Davis also did a Caesarian for a case of cord presentation where the Cervix was hard to dilate in order to save the baby. Cases of myocarditis were also considered justifiable Caesarian, especially where they promised to have long hard labors.

DISCUSSION.

CHAIRMAN: This paper by Dr. Roethke is open for general discussion. Are there any remarks?

DR. FUERSTENAU, Milwaukee: Indications for Caesarian section are very plain. I have had the pleasure of helping Dr. Roethke in many of these operations. When I went to school we were given the indications for Caesarian section, and one of them was the pelvic measurements. The feature about the Caesarian section that impressed itself upon me is the importance of determining the proportion of the normal pelvic measurement to the child's head. As to other indications I think he has covered all of them with the exception that I do not remember his mentioning anything about the small fibroids being located near the surface of the uterus. I remember his having several of those cases where fibresi interfered with the delivery. Another thing in his paper that I would like to emphasize was the uneventful recovery of the patient.

DR. M. L. HENDERSON, Milwaukee: Caesarian Section has naturally had its ups and downs. We know that it was once considered a very major operation, in fact the biggest of them all, to have had it called the "Kaiser Schnitt" by the Germans; but I believe the day has arrived for the Caesarian Section, and that it will be the accepted route for delivering a living child; in all conditions where the natural birth canal or the physical condition of the expectant mother is such as to make for difficulty and uncertainty as to the outcome of a labor in the usual way, it is better for the mother and better for the child.

In non-complicated cases I find the mortality so low that it does not need consideration, but I would say that the principal difficulty is to say just when it is advisable to take the abdominal route. The reason for increased frequency of the operation is because we are having more consideration for the life of the child as well as that of the mother. The indications, as, absolute contracted pelvis, a tumor low down in the pelvic canal, etc., are being added to yearly by experience so that now there are many conditions where it is advisable to resort to the high abdominal and uterine incision, which makes it as simple as any abdominal operation and attended with no more danger.

I would like now to make a plea for Caesarian Sections and believe that the difficulty is not in the operation itself but is in the decision when to, or when not to, choose this method of delivery.

DR. F. A. STRATTON, Milwaukee: It is a well known fact that in the hands of competent surgeons, the Caesarian Section in elective cases is almost devoid of mortality for the mother, at least the mortality, I think, is less than one per cent, which compares very favorably with the mortality in high forceps delivery. Furthermore, as regards the life of the infant, there is no comparison, the section being practically devoid of mortality. Now, in cases where delivery is manifestly impossible by the lower route there is clearly no question as to the indication for the abdominal section. It is also very clear that in those cases where it is possible to determine in advance that a great deal of difficulty is going to be encountered in delivering the child by the normal route, and the result in the event of forceps delivery will be disastrous to the child, and probably to the mother, that the abdominal route, with no danger to the child, and very little to the mother, is indicated. I refer to elective cases where the amniotic sac is intact, and no contamination by frequent examination has occurred. Of course, in the latter class of cases, where infection of the mother is assumed to have occurred, it raises a very nice question, where the best surgical judgment is required. I have done a Caesarian in one instance in ten minutes, from the first incision to the last stitch, and it can be done under favorable circumstances on an average of from ten to fifteen minutes, as Dr. Roethke has stated. I have performed a Caesarian Section on a primipara where there was no obstruction to labor except a large angio-papilloma, which nearly filled the vagina, and which, had labor been permitted to take its normal course, would undoubtedly have caused a great deal of trouble. There is no question but what this operation is often done unnnecessarily and ill advisedly, just as gastro-enterostomies and appendectomies, and every other operation, but that is, of course, no argument against this extremely beneficent measure when the indication clearly exists.

DR. P. H. MCGOVERN, Milwaukee: The men today who are practicing Caesarian sections and defending it very strongly, do not point to the real danger of Caesarian sections. The gentleman who just spoke last told me today that he performed a Caesarian section the second time on a woman and the woman had been in

labor about an hour before they succeeded and at the time he entered the uterus it was ruptured. Now, I noticed one very great danger, that all these men fail to tell the men who haven't any experience in that line—a woman who has been operated on once, whether it was necessary or not, would have to be operated on all the time; every child has got to be delivered in that way or else her life is in great danger, greater danger than any other danger that a woman can face. I was in a hospital in this city about two months ago. The resident physician told me that Doctor Roethke had performed a Caesarian operation that morning. I asked him what the indications were for that Caesarian operation and he said I don't know, I don't think there were any. Now, we are becoming a little too over-enthusiastic. There is no question under the sun but what it can be done safely, done easily, an easy operation, and it will save a great many lives and it is frequently indicated, but I am afraid we are going to over do it.

Dr. Echols: I agree with Dr. Roethke as to the advantages of the high incision, but have not had a great deal of experience with it. One of his objections to the ordinary (Sanger) operation is that it requires forty-five minutes to an hour. I have done the Sanger operation many times in from 12 to 15 minutes, and therefore cannot consider that objection as valid.

Dr. Larson: I just want to ask for information; I don't want to criticize. I have had some cases that I am satisfied could have been saved by the Caesarian section; everything was normal except the head. How can you determine this before labor comes on?

Dr. R. W. Roethke, Milwaukee: The first question as to some of these cases being in labor, some of these cases we put in the border line class and give them a trial labor. Nature some times does wonders and if you do not leave the patient go into exhaustion, do not do too much manipulating, the chances of that case are not subjective. Now, the second cases, the determination of the child's head to the pelvis, if the head does not come down normal in the period there is something holding it up, and you put this case in the border line class, give them a trial and you can tell by the over-lap in the cranial bone, you can tell when the child's head is projecting against the brim of the pelvis. There is another question, and that is that the interne did not believe there were any indications. Do you always tell the internes all the indications of your operation? Some times you are busy, some times the interne is very busy, and the interne knows nothing about it. Another question—the ruptured scar. It has been known before the seventeenth century, been very common knowledge that a scar in the uterus following Caesarian section is weak, and if you read any of the very old literature you will find that where you have indications for one Caesarian naturally you have the common sense to do that next Caesarian before the woman falls in labor. There are some cases where if a woman is in labor, the cervix may be dilated up to three or four fingers in subsequent labors, and then before the expulsive pains come on you might use the forceps and deliver, but these cases are very very few. A couple of other indications I forgot to mention. I had one myocarditis case like Doctor Echols spoke of; I had some cases where tumors were removed from the uterus, and some repeated Caesarians where I did the operation for a weak scar. I wish to apologize to Doctor Echols, or rather explain that all operators are not as quick as he is, that the original Sangor Caesarian requires two layers of sutures and a lot of fancy lace work, but if you do the simple suturing in the Sangor Caesarian you can do it almost as quickly as the Davis, so that is just so there should not be any hard feeling.

Chairman: I am responsible for Doctor Roethke appearing upon this program. I have heard whispering from time to time in Milwaukee, and I trust this subject will come up again and again until we all see the indications and agree upon them as we should, whether the facts are all as Doctor Roethke says or not.

EXPERIMENTAL TREATMENT OF FRACTURES BY USE OF PLATES.

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WAUSAU, WIS.

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The object of the experimental work was to study the operative treatment of fractures by the use of steel plates. There were twenty-two experiments done on dogs, using the Lane plate and four experiments in which small pieces of ivory, cow's bone and dog's bone were used.

DESCRIPTION OF EXPERIMENTS.

In the first series, of which there were ten experiments, an attempt was made to fracture the dog's femur, then repair the fracture by using a plate one and one-half inches long by one-fourth inch wide. The animal was anesthetized, the leg was shaved, the skin dried with alcohol and ether, tincture of iodine was applied and usual surgical technique carried out. An incision was made on the outer side of the lower third of the femur, muscles split and bone exposed, care being taken so that there would be the least amount of damage done to the soft parts. The bone was partially cut with a chisel and the plate applied loosely, using screws which entered the medullary cavity. After this procedure the bone was completely fractured

and screws tightened. As a result there was good alignment with the least amount of damage to the surounding structures. The wounds were closed with silk, collodiun dressing was applied and the leg put up with plaster bandage. The wound was inspected on the fifth to tenth day and plaster cast changed depending upon the condition of the fractured leg.

It was soon found, however, to be a difficult problem to keep a dog's femur in good position even though the leg was well flexed before being put into plaster. The results of this series of experiments were not satisfactory as seen by the following table:

Exp.	Length of Experiment	Healing	Condition of Plate and Results.
1	6 days	First intention.	Screws loose, large abscess in groin, no sinus at site of operation.
2	11 days	Infection.	Plate loose.
3	8 days	Infection.	Plate loose.
4	4 weeks	First intention, cast off end of 2nd week. Stitches out 7th day.	2 screws in soft parts, marked callous. (Fig. 1 and 2).
5	4 weeks	First intention, stitches out 8th day.	3 screws in soft parts, false joint.
6	4 weeks	Small sinus at lower end of wound.	3 screws loose, bone in good position, but evidence of infection.
7	6 weeks, 4 days	First intention, stitches out 6th day.	Plate broken at upper screw hole, middle screws in soft parts, false joint, marked callous lower fragment.
8	8 weeks, 3 days	Stitches out 6th day. Sinus at lower angle	Plate loose, bones in good position.
9	8 weeks	Stitches out 6th day. wound. First intention.	Plate loose, 2 screws in soft parts. Definite bony union.
10	10 weeks	Stitches out 9th day. First intention.	Lower part of plate loose, 2 screws in soft parts, false joint, large amount of callous.

Of the above series only five healed without infection and the results were unfavorable in every case. One reason for this was that the fractured bone could not be fixed properly as there was always a certain amount of motion between the fragments.

Groves in a series of experiments on animals found that in five cases where a long plate and transfixing pegs were used, he did not get any infection, while in nine experiments done in the same manner, using short plates, over half were infected. The movement of the bones caused irritation of the soft parts, considerable fluid was poured out and one found that the plates were usually surrounded by a serous fluid which later caused sinus formation. Therefore mechanical fixation of the bones is very essential to good results in plated fractures.

On account of the great difficulty in supporting the fractured bones satisfactorily, it was decided to attempt the same experiments upon the tibia, as this bone could be held in plaster much more satisfactorily. The plate, however, could not be covered with muscle and would be more superficial than in the first series. The same technique was carried out on twelve animals, the upper third of the right tibia being fractured and plated. Here the results in regard to infection and good bony union were much more satisfactory as seen in the following table:

Exp.	Length of Experiment	Healing	Condition of Plate and Results
11	1 week	First intention.	Plate tight, embedded in fibrous tissue, bones in good position.
12	2 weeks	First intention, stitches out 9th day.	Plate firm, bone has considerable fibrous tissue surrounding it.
13	3 weeks	Infection.	Upper screw in soft parts, others tight.
14	4 weeks	First intention.	Plate covered with fibrous tissue, all screws in place, good union.
15	4 weeks	Small sinus, lower angle wound.	Plate loose, 2 screws loose, operative wound healed but small sinus outer side of leg.
16	4 weeks	First intention.	Plate covered thin layer fibrous tissue, small amount of crepitus at fracture.
17	4½ weeks	First intention, stitches out 10th day.	Large amount of callous on bone opposite plate.
18	6 weeks	First intention, stitches out 9th day.	Fibrous callous covering plate, definite bony union, good result.
19	6 weeks	First intention.	Plate covered with fibrous tissue, large amount of callous.
20	8 weeks	First intention, stitches out 8th day.	Very small amount of callous, good result.
21	9 weeks 4 days	First intention, stitches out 12th day.	Plate tight, good result.
22	11 weeks	First intention, stitches out 7th day.	Plate healed in, slight amount of callous.

DETAILED DESCRIPTION AND MICROSCOPIC STUDY.

EXPERIMENT 11, DOG 40, 1 WEEK.—Incision was made over upper third of the left leg exposing the tibia. During the process of breaking the bone with a chisel, the shaft was split for a distance of about 2½ c.m. This occurred on the side opposite the plate, which measured 2½ by ¼ cm. and was fastened by four screws. The wound was closed with silk, plaster cast applied with knee flexed. The seventh day the animal was sacrificed, bone decalsified and microscopic sections made.

Sections show lower fragment to be split, the cortex beneath the plate has a layer of fibrous tissue but with no evidence of bone formation, while at the ends of the fragments and on the side opposite the plate there is a beginning of bony regeneration and considerable dense fibrous tissue. The space between the fragments is filled with young granulation tissue, there being numerous fibroblasts and considerable hemorrhage. Here and there one finds spicules of bone which are surrounded by fibrous tissue, but do not seem to be taking any active part in regeneration. There is considerable new bone along the endosteum, but

Fig. 1. X-Ray. Fractured femur end of 30 days, showing false joint and loose screws.

none at the end of the bony fragments. No areas of cartilage can be seen.

Experiment 12, Dog 70, 2 Weeks.—The right tibia was fractured at upper third and plated. There was considerable bleeding. The defect between the fragments was very small. The wound was closed with silk and cast was applied. Seventh day: stitches removed, cast applied. Fourteenth day: animal sacrificed. Fragments found to be in good position and plate covered by a fibrous capsule. On opening this there appeared a few drops of serum and the tissues were slightly dis-

Fig. 2. Microscopic section of fractured femur shown in Fig. 1.

colored. Screws loose. Plate removed, bone decalsified and sectioned.

Microscopic section shows that the screw hole (Fig. 3, C) is surrounded by granulation tissue, that there is no granulation tissue or thinning of the cortex beneath the plate but that there is considerable reaction from the opposite side of the bone (Fig. 3, D). This is most marked beneath the periosteum (E), although the endosteum and ends of the cortical bone are also beginning to proliferate (Fig. 4). The medullary portion between the fragments is filled with fibrous tissue. No cartilage found.

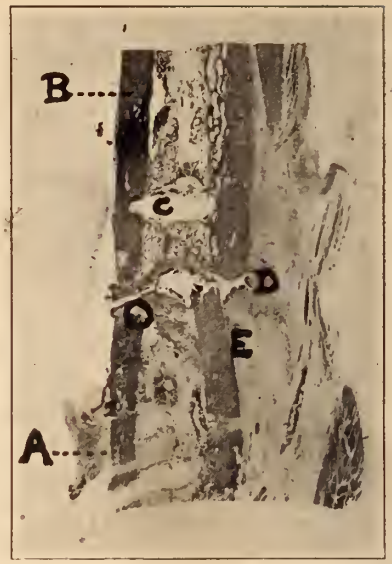

Fig. 3. Exp. 12. Fracture 2 weeks. A—Lower fragment. B—Upper fragment. C—Screw hole. D—Side opposite to bone plate. E—Periosteum.

Experiment 16, Dog 52, 4 Weeks.—Incision made over upper third of right lower leg. Bone was found to be soft and was broken with chisel. Plate was applied on inner side of leg and there was considerable bleeding at time of operation. Wound was closed with silk and plaster bandage applied. Eleventh day: cast removed and wound found to be healed, stitches removed. Marked crepitus between fragments. Plaster cast applied, Fourth week: dog sacrificed. On removing cast, a small spot, ½ cm. in diameter, was found on the

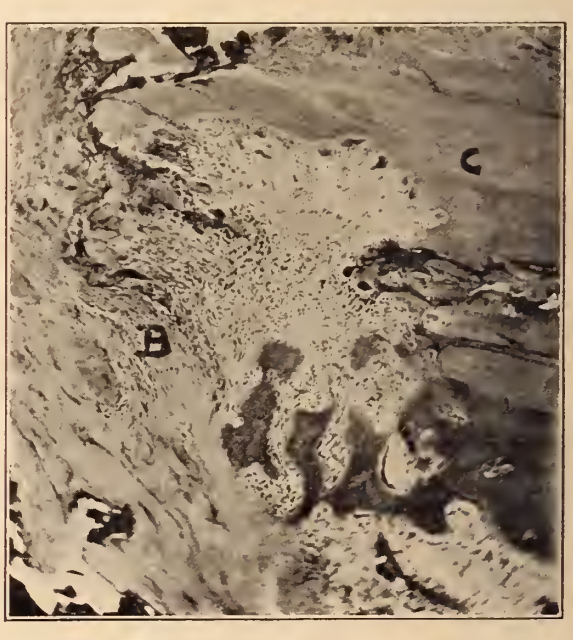

Fig. 4. Microphotograph taken in region of (O) Fig. 6. C—Cortex. B—Fibrous tissue.

gauze near the upper angle of the wound. Beneath this there was a small opening in the skin and a fine probe could be passed down to the bone. No fluid could be expressed. Plate was covered by a thin layer of fibrous tissue and the two upper screws were loose while the lower ones were tight. Bone decalsified and sectioned.

Microscopic section shows a definite layer of granulation tissue surrounding the cavity (Fig. 5 X) left after removal of the plate. This extends down into the screw holes (Fig. 5 C). Beneath this granulation tissue there is a thin layer of new bone formation which is clearly shown in figure 5, N. The screw holes in the upper fragment are entirely filled with fibrous tissue and there is some atrophy of the cortex. It is interesting to note that the new bone extends to the end of the plate but does not extend over it (Fig. 5, A). As in the previous sections the greater amount of callous is on the opposite side of the bone, there being fine strands between the periosteum and cortex and lying perpendicular to the long axis of the cortex (Fig. 5, B). The narrow cavity at the site of the fracture is filled with fibrous tissue but no cartilage is found except a small island beneath the periosteum. None is found in the marrow cavity or just external to the cortical bone.

Fig. 5. Exp. 16. Fracture 4 weeks. X—Cavity left after removal of plate. C—Screw holes. N—New bone extending up to plate but not over it. B—Large amount of new bone on side opposite to the plate. A—Fibrous tissue over plate.

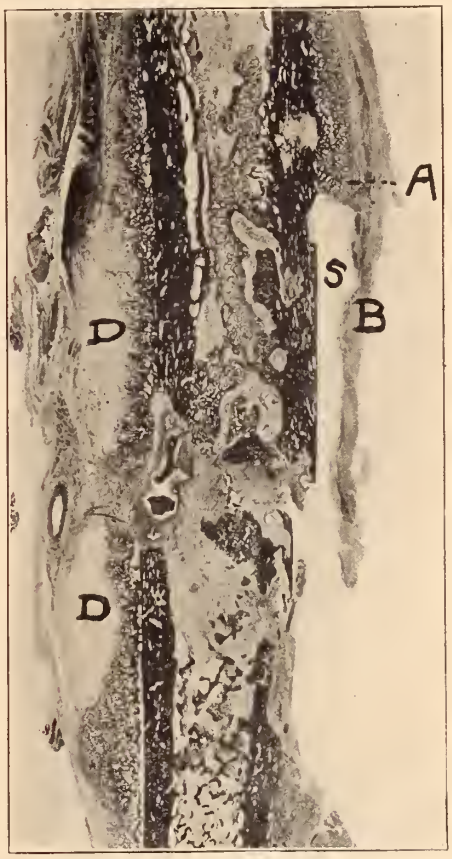

Fig. 6. Exp. 17. Fracture 4½ weeks. A—New bone. S—Space left after removing plate. B—Fibrous tissue over plate. D—Area of cartilage. Note that new bone stops abruptly at plate.

Experiment 17, Dog 39, 4½ Weeks.—The microscopic section shows more clearly the definite new bone formation which extends up to the plate (Fig. 6, A). This was present for a distance of more than 1½ cm. and stopped abruptly at the end of the plate there being no attempt to cover the foreign body with new bone. Careful study of the tissue (Fig. 6, B) covering the space (S) left by the removal of the plate did not show anything except a dense fibrous tissue. There was no suggestion of cartilage or of new bone. Cortex under the plate did seem to be markedly changed. On the opposite side of the tibia there was a marked overgrowth of callous composed of new bone and large islands of cartilage which were

found between the cortex and the periosteum. The cartilage is being replaced by young bony trabeculae.

At the line of fracture there is a great deal of connective tissue which is being replaced by new bone. The fragments are surrounded by connective tissue but there is no evidence of any bony proliferation at the edges. The reaction in the medulla is much more marked.

Experiment 19, Dog 47, 6 Weeks.—Incision along the upper third of right tibia, part of the bone fractured, heavy plate applied, then the fracture was completed. During this procedure the inner surface of the bone was comminuted and

Fig. 7. X-Ray picture. Exp. 19. Fracture 6 weeks. Note callous on side opposite to the plate.

some of the pieces became displaced although care was taken not to remove the fragments. Silk for fascia and skin. Plaster cast. Sixth day: wound found to be healed and stitches removed. Crinolin bandage. Eighth day: Some redness at upper angle of wound and slight separation of edges of wound. Second week: wound healed. Sixth week: animal killed. There was a very large amount of callous at the site of fracture and marked difficulty was encountered in taking out the plate as part of it was covered by a dense tissue ½ cm. in thickness.

Microscopic study shows a space left after the removal of the plate (Fig. 8, S). The tissue covering this is made up of a dense fibrous mass with no evidence of bony trabeculae (Fig. 8, A). There is a very large amount of callous on the opposite side of the bone which is almost entirely made up of new bone with one large area of cartilage at B (Fig. 8).

Experiment 20, Dog 46, 8 Weeks.—The upper third of the right tibia was exposed. The plate was applied on the outer side beneath the muscle

Fig. 8. Exp. 19. Fracture 6 weeks. S—Space left after removal of plate. B—Area of cartilage. N—New bone. A—Fibrous tissue covering plate.

and the bone fractured. No marked trauma to soft parts and there was very little bleeding. Silk for subcutaneous tissue and skin. Plaster bandage applied. Second day: cast removed, stitches taken out and wound found to be healed per prinum. Cast applied. Seventh day: animal O. K. Third week: cast off, animal uses four legs. Good functional result. Bones in good position. Eighth week: dog sacrificed. Plated bones healed perfectly. Very little callous present on the side of

the plate and only small amount on opposite side. Bones decalsified and sectioned.

Microscopic study shows no apparent atrophy of the cortical bone beneath the plate but there are a few islands of new bone formation. At the ends of the plate one finds new bone formation along the periosteum but none over the surface of the plate. On the opposite side the bony proliferation is more marked. No cartilage and very little fibrous tissue is found. A definite bony bridge extends through the marrow cavity in the line of fracture and some areas show definite bony absorption.

Experiment 21, Dog 60, 9 Weeks, 4 Days.—Upper right tibia was broken with a chisel and plated on the inner side, not under the muscles. The bone on the outer side was comminuted the pieces being taken out but later replaced. The wound was closed with interrupted silk and plaster bandage applied. Twelfth day: animal healthy. The cast was removed, wound found to be completely healed and stitches removed. Cast again applied. Fourth week: cast has come off, wound healed. Ninth week: dog sacrificed, firm union of bones. The plate was found covered by a thin layer of fibrous tissue, screws were in place but the upper two were loose. Bone decalsified and sections made.

The microscopic section (Fig. 9, S) shows that the screw holes are lined by granulation tissue The outline of the grooves of the screw are plainly seen and screws had been held firmly in place. There is some bone lining the cavity left by removing the screw and this is more marked at A (Fig. 9) and seems to be a proliferation from the cortical bone. The space which represents the location of the plate (Fig. 9, C) is entirely surrounded by a thin layer of granulation tissue which extends down into the screw hole (S) where it is abundant. Under the plate there is no evidence of new bone formation neither does there seem to be any bony atrophy in this section. There is bony proliferation on the surface of the periosteum and extending for a distance of 4½ cm. to the end of the plate. There is no evidence of bone covering the plate itself.

On the side opposite the plate there is a large amount of new bone formation (Fig. 9, D) which is most marked between the periosteum and the cortex. In this experiment there was slight displacement of the fragments as the cortical bone is not in exact alignment. At the line of fracture

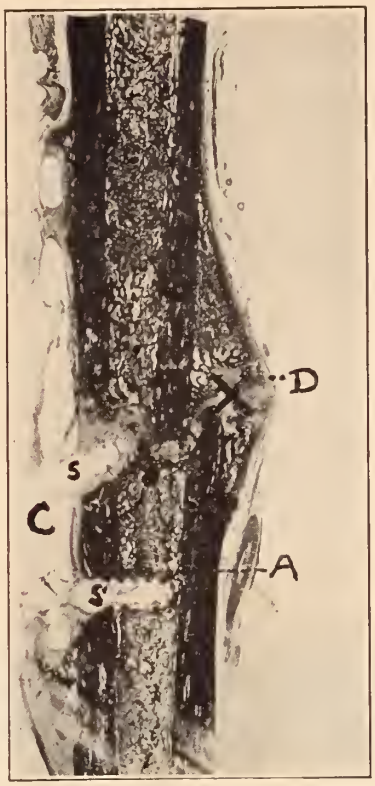

Fig. 9. Exp. 21. Fracture 9 weeks. S—Screw holes. A—Bone lining screw holes. C Space left after removal of plate. D—Callous. X—Cartilage.

one finds the space filled with a very dense fibrous tissue which is being rapidly replaced by new bone which is growing in from the edges of the fracture. There is one area of cartilage (Fig. 9) which is found between the fractured cortex and in which one finds numerous spicules of new bone.

REMARKS.

There were two cases out of 12 experiments in which there were infections and in practically every case the fractured bones healed satisfactorily. The plates and screws were firm and usually covered with fibrous tissue but never with true bone. From four to six weeks the callous was in great abundance usually on the side opposite the plate while after that time it began to be small in amount so that at the end of eleven weeks there was only a very slight amount at the site of fracture.

There are many series of cases in which fractured bones have been plated and the majority of observers are of the opinion that in many cases the plates must be removed after the bones have become united. Benjamin, in 1912, reports a series of 74 cases in which he has had very good results and believes that the bad results have been due to

bad technique. Sherman reports 200 cases in which the results have been very good.

Four experiments were done to study the reaction of bone and ivory. Three small holes were made into the shaft of the tibia, a small ivory disc was placed in one, a piece of boiled cow's bone and live dog's bone of equal size were placed in each of the other holes. The animals were allowed to live nine, ten, eleven and twelve weeks respectively. Figure 10 shows considerable reaction around both pieces of bone but more around the dog's bone (D). Careful study shows that the ivory is healed in and is beginning to break up around it's edges so that probably it would have been absorbed had the animal been allowed to live.

Fig. 10. Showing shaft of dog's tibia with transplant of dog's bone (D), ivory (I), and boiled cow's bone (C). Eleven weeks duration.

The pieces of bone seem to stimulate new growth and there is much more bone formation than was ever found around the steel plates. Good mechanical fixation with rigid asepsis are very essential for good results if steel plates are used in the treatment of fractures.

If operative treatment for mal-union of a fracture is required, bone graft, though more difficult, usually gives better end results than a steel plate.

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TYPHUS EXTERMINATED IN SIBERIA.

The five-year campaign which American Red Cross doctors and nurses have been waging against typhus in Serbia has ended victoriously. The recent report of the Serbian Commission states that there are but sixty-five cases in the country, two-thirds of these being in Belgrade where the Red Cross operates a hospital for typhus cases only.

The first unit organized to fight typhus in Siberia was headed by Dr. Richard L. Strong, and arrived just five years ago. The invasion of the Austrians forced the unit to flee from the country. The subsequent famine and exposure endured by the Serbs served to increase the spread of typhus during the next two years.

During 1915, 150,000 persons died of the disease in a population of three million. One hundred and fifty doctors succumbed, so that after the Serbian army defeated the Austrians and work was taken up by the Red Cross there was only one doctor to every 75,000 persons. In towns of 4,000 population there was usually not one physician, although the number of typhus cases ranged from ten to thirty. There was one surgeon and one dentist in the whole country.

The free dispensary was the foundation of the campaign against typhus in Serbia. Dispensaries were established at the most advantageous points. Medical units working from these main points penetrated far into the interior of the country. Soup kitchens were established to fight malnutrition; farmers were assisted to return to their homes; housing conditions in cities were improved; hospitals were operated by the Red Cross and worthy institutions under other direction were furnished with needed supplies and equipment.

"It may seem strange," writes Lieut. Col. Edgar Erskine Hume of Frankfort, Kentucky, present director of the American Red Cross Commission in Serbia, "but our doctors and nurses conquered the plague by using laundry soap, scrubbing brushes, kerosene, disinfectants, and delousing machines. We went into the homes of the people and carried the patient out. At times they were reluctant to leave, and we had a hard task overcoming their fatalism. We had to use force, for left to themselves they would have allowed the disease to run its course, which meant death not only to themselves, but to others."

Since typhus has been practically exterminated, the commission has turned its efforts toward instilling the principles of hygiene, sanitation and nutrition in the minds of the people. Appreciating the victory of the Red Cross, prominent citizens are organizing to assist in keeping the country free from the plague, which there appears in its most malignant form.

ODE TO A SKULL

INTRODUCTORY NOTE.

The following anonymous poem has an exceedingly interesting history. It is supposed to have been written sometime in the middle of the 18th century, by a student in Guys College, London.

According to the story, there was present in the museum of Guys College a human skeleton, which was highly valued because of the rarity of human skeletons available at that time.

It is said that this skeleton disappeared from the museum and was gone from its place for a considerable period of time, supposedly having been surreptitiously "borrowed" by some student for the purpose of study.

It was later found returned to its case and was discovered to be holding in its hand a paper, upon which the following poem was written. This poem was not signed, and although every effort was made to discover the name of the author and it is even said that a considerable money reward being offered, no trace of the author was ever found.

E. V. Brumbaugh.

1.

Behold this ruin—it is a skull,
  Once of ethereal spirit full.
This narrow cell was life's retreat,
  This space was thoughts mysterious seat,
What beauteous visions filled this spot,
  What dreams of pleasure—long forgot,
Nor hate, nor love, nor care nor fear,
  Has left one trace on record—here.

2.

Beneath this moldering canopy, once,
  Shone the bright and beautcous eye,
Yet start not, at the dismal void.
  If holy love, that eye employed
If with no lawless fire it gleamed,
  But through the dew of kindness beamed.
That eye shall shine forever bright,
  When stars and suns are sunk in night.

3.

Perhaps upon this fleshless cheek,
  His Mother poor and kind and meek,
Has pressed her kisses, warm and sweet,
  The while she did the Lord entreat.
That through the turmoil and the strife,
  And all the ills of fitful life,
He would, her precious boy defend
  And on him choicest blessings send.

4.

Within this hollow cavern hung,
  The ready, swift and tuneful tongue,
If falsehoods honeys it disdained,
  And when it could not praise, twas chained,
If bold in virtues cause it spoke,
  Yet gentle concord, never broke,
That silent tongue may plead for thee,
  When time unveils eternity.

5.

His fingers, did they delve the mine,
  Or with the envied ruby shine,
To hew the rock or wear the gem
  Can little now, avail to them;
But if the page of truth they sought,
  Or comfort to the mourner brought,
His hands, a richer meed shall claim,
  Than all that rests on wealth or fame.

6.

Avails it whether bare or shod,
  His feet, the path of duty trod,
If from the bowers of ease they fled,
  To seek afflictions humble shed,
If grandeurs guilty bribe they spurned,
  And home to virtues cot returned.
His feet, with Angel wings shall vie,
  And tread the palace of the sky.

7.

He once like us, possessed a name,
  Perhaps was not unknown to fame,
And swayed with eloquence the throng,
  Or soothed some aching heart with song.
We stand upon life's fitful shore,
  And view this wreck of days of yore,
And bow the head, the rod we kiss,
  We too, in time shall be like this.

MARY'S LITTLE COLD.

Mary had a little cold
  That started in her head,
And everywhere that Mary went
  That cold was sure to spread.

It followed her to school one day
  (There wasn't any rule);
It made the children cough and sneeze
  To have that cold in school.

The teacher tried to drive it out;
  She tried hard, but—kerchoo!—
It didn't do a bit of good,
  For teacher caught it too.

—*Congregationalist.*

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 514 Wells Building, Milwaukee

Vol. XVIII. November, 1919 No. 6

EDITORIALS

If a man can write a better book, preach a better sermon or make a better mousetrap than his neighbor, though he build his house in the woods the world will make a beaten path to his door. *Emerson*

REGISTERED CATTLE AND REGISTERED BABIES.

HORSE and cattle breeders owning "blooded" stock do not fail to have their animals "registered." It adds to their value and is therefore justly regarded as highly desirable.

Contrasting this attitude with that of many careless parents, the Public Health Service gives the following reasons why Baby's birth should be registered.

1. To establish identity.
2. To prove nationality.
3. To prove legitimacy.
4. To show when the child has the right to enter school.
5. To show when the child has the right to seek employment under the child labor law.
6. To establish the right of inheritance to property.
7. To establish liability to military duty, as well as exemption therefrom.
8. To establish the right to vote.
9. To qualify to hold title to, and to buy or sell real estate.
10. To establish the right to hold public office.
11. To prove the age at which the marriage contract may be entered into.
12. To make possible statistical studies of health conditions.

THE GROWTH OF THE HOSPITAL IDEA.

FIGURES in a recent official report to the U. S. Department of Labor show the astounding growth of the hospital idea in this country during the last half-century. In 1873—less than fifty years ago—there were in the United States only 149 hospitals; today there are nearly 9,100—an increase of nearly 6,000 per cent in the number of institutions. In 1873 the total bed capacity of the then-existing hospitals was 35,453; today the hospitals of the country have a total capacity of approximately 869,000 beds—an increase of over 1,000 per cent. The amount of money at present invested in these institutions is roughly estimated at nearly two billion dollars; the annual expenditure for supplies, equipment, upkeep, and new construction is said to be about three-quarters of a billion.

Rapid growth is usually a careless growth. Institutions are springing up overnight that bear little resemblance to the modern hospital yet advertise as such. The public is no more able to

discriminate than they have been in the past in the choice of their medical advisors. The work of the American Medical Association, the College of Surgeons and the committees of the State Medical Societies in an effort at Hospital Standardization is most timely and should receive the hearty support of our profession.

THE CLEAN AGE.

AMERICANS today are living in what promises to be the "clean age" of world development and are very probably standing on the threshold of a longer expectancy of life in which diseases of filth, such as typhoid fever, smallpox, typhus, and plague, will be controlled and perhaps eradicated.

The end for typhoid fever already is near. Modern sanitation, sewerage, vaccination, and a safe water supply have greatly reduced the ravages of a disease that would be unknown but for human filth. In the case of smallpox the almost universal vaccination and isolation of the few cases developing have made this disease less to be feared than ever before. Old World scourges like typhus and plague are stopped at the American gateways by delousing immigrants and by preventing plague-infected rats gaining a foothold on the American shores. Overseas effective measures are being adopted to prevent the spread of these diseases by teaching cleanliness in communities where the scourge now thrives.

More strongly intrenched than typhoid fever and smallpox combined, claiming more innocent victims every year and leaving a trail of wrecked humanity in its wake stand syphilis and gonorrhea, typical preventable diseases. These, too, are going to be controlled in the "clean age" in which we live, for the United States Public Health Service and State boards of health throughout the Nation are concentrating their efforts and have pooled their resources with this end in view. Most satisfactory progress already has been made with the establishment of free clinics for the treatment of venereal diseases in the larger cities and the closing of restricted districts, making it difficult for the professional prostitute to spread the diseases. During the fiscal year, which began July 1, the Public Health Service hopes to extend this part of the campaign in cooperation with the States, so that clinics will be established in every city in the United States with a population of 10,000 and over, and so that adequate facilities for treatment will be provided in the rural communities.

The very backbone of the fight to control these two scourges is education. The greatest handicap encountered has been the reluctance of the general public to recognize the existence of diseases that are gnawing away at its very vitals; an inclination to regard syphilis and gonorrhea as diseases of crime rather than of unclean living.

The World War brought home to us with telling force the necessity for clean living when the draft revealed the high prevalence of venereal diseases among men taken into the army from civil life. This lesson of the war is today among the most important reconstruction problems of peace.

We can no longer protect syphilis and gonorrhea by refusing to recognize their existence. We must realize what physicians have long known —that every day we walk with these diseases; brush elbows with them and run the risk of having them invade our homes. We must learn to live clean, in clean communities in which filth diseases can not thrive. We must teach our young people the lesson of social hygiene. We must throw the weight of our influence against any interest that seeks to set up again the disease-breeding restricted district.

More than any other health movement in history the campaign for the eradication of venereal diseases needs the support of every citizen. Let's do our share.

IS HE WORTH WHILE?

(Bucks County, (Pa.) Medical Monthly).

IS the non-attending member in our county society worth while? The distant living member is not included in this consideration. Is the non-attending member worth defending when he gets a mal-practice suit on hand? Is it worth while for the active members of the society who kept things going and who would be compelled to lose their good time attending court to help the fellow in trouble when that particular individual never bothered attending any of the meetings nor bringing anything good to the fellows? One courtesy deserves another. The sick or unfortunate are excepted. Twenty years ago, such ac-

tions "went." Today it is very different. The Medical Defense Fund, and other means of progress have put an entirely different construction upon the membership. If the non-attendant does not think it worth while, why should the active members make it worth while to defend him? Pay his dues? Surely, that is not the only good thing in this world. Good-fellowship is often valued above price. A physician without any joint interest or fraternal feeling is not worth a shuck, for by his own action, he makes himself a poor member. He is hardly worth while.

THE JOURNAL CLINIC

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From the Clinic of the University of Wisconsin,

H. P. GREELEY, M. D.

The following cases serve to illustrate different types of Glycosuria, for which the practitioner must be on the lookout. They are more interesting from the point of view of diagnosis than treatment.

CASE I. Peter W. Age 27. Married. Industrial chemist.

Family History aside from positive neurotic tendency is entirely negative. No history of Diabetes, Gout or Obesity.

Personal History. Has always been extraordinarily well, a great athlete and champion long distance runner.

Present Illness. Owing to the accidental discovery of sugar in the urine, the patient came for examination. For the past year he has been under enormous strain of work, with huge responsibilities, and is the type of man who carries his work home and worries constantly. His complaint is excessive nervousness, sleeplessness, headache, and loss of twenty pounds in weight. No thirst or polyuria.

He smokes to excess and drinks coffee to excess. (Five to six cups daily.) In contrast to his former habits, he gets no exercise and he eats voraciously and with great rapidity. Averages nearly sixteen hours of mental activity and strain daily. The patient is greatly worried about his condition which has been diagnosed Diabetes.

Physical Examination. Six feet tall. Weight 165 pounds. *Physically sound.* Anxious, tense expression. Muscles in a state of tension. Urine 1500 c.c. in twenty-four hours. Gravity 1024. Sugar .5 per cent. No acetone or diacetic acid. No albumen. Wassermann, negative. Blood examination negative.

The patient was told to remedy his mode of living as to work, exercise, worry and eating, entirely along general lines. After one week, he came back and submitted to sugar tolerance test. His urine being free from sugar and his blood sugar .10 on three successive mornings on a fasting stomach, he was given 25, 50 and 100 grains of glucose each time, with a pint of water. Urine and blood sugar tests were made one hour and two hours later, and it was seen that the urine remained sugar free, and blood sugar did not exceed .11. The explanation of this case is that of an emotional Glycosuria and not a true Diabetes. The loss of weight is due to loss of sleep and Polyphagia is habitual. No relapse has occurred in the case except on one occasion, when for a number of weeks, he relapsed in his mode of life, and under new and increased responsibilities, sugar, headaches, sleeplessness, all returned. This may be a potential case of Diabetes which according to the old classification would be of the neurogenous type. It is a case of Diabetes which should not be allowed to develop, but its prevention depends entirely on a reform of general habits of living.

CASE II. Mrs. Jacob W. Age 62. Hebrew housewife. She came complaining of nervousness and terrific headaches of a universal and deep-seated character.

Family and Personal History, negative.

Present Illness. Gradual loss of weight over the past ten years, not exceeding fifteen pounds in all. No Polydipsia, Polyphagia, or Polyuria at any time. Appetite poor. Occasional attacks of nausea and vomiting. Has been treated for two years for Diabetes and has lived on a strict diabetic diet. Sugar has never been eliminated from the urine. Has had headaches so severe that she feels sometimes as if she would lose her mind.

Physical Examination. Elderly woman. Five feet two inches tall. Weight 132 pounds. Pupils, nose, throat, teeth, lymph nodes, heart, lungs and abdominal organs completely negative.

General inspection, however, shows certain unmistakable abnormalities. Facies presents large, thick lips, large, aquiline nose and abnormal prognathist jaw. Arms seem to hang rather low for a woman of five feet two inches. Fingers rather short and stubby. Hands very large. Glove size eight. Examination of eye ground shows slight optic neuritis.

Apparently a case of Acromegaly with persistent Glycosuria, and in no way to be considered pancreatic Diabetes.

Diet partly controlled sugar output, but never wholly. Blood sugar examination normal, .11. Dietetic treatment unimportant.

CASE III. Mrs. Jane G. Age 27. Married. Housewife. An apparently healthy woman whose physician

found sugar in the urine without other symptoms or signs. No loss of weight, Polydipsia, Polyuria or Polyphagia.

Family and Personal History, negative. Habits exemplary. Mother of one healthy child, age three and one-half years.

Present Illness. Now nursing a child of three months. Has had an excessive supply of milk and some trouble with "caked" breasts. Told by her physician that she must wean the baby at once on account of diabetic condition.

Physical Examination. Entirely negative. Well-developed and nourished woman. Blood tests normal. Blood sugar .11. Urine shows heavy trace of sugar, reducing rather slowly with Fehling's.

Special tests showed no alteration in amount of sugar in fractional specimens. On careful chemical examination and fermentation and rotation, the sugar proved to be lactose and not glucose, immediately clearing the diagnosis.

Treatment lay in regulating habits of life, removing worry, increasing exercise and keeping the baby on the breasts and pumping them to avoid "caking" and excessive filling. The lactose tests for urine are unsatisfactory. Malfatti's is best. To 5 c.c. urine add 2-5 c.c. strong Ammonia. Add 2 drops caustic potash. Heat in water bath, but not to boiling. In five minutes a red color develops for lactose, glucose giving a yellow or brown color.

CASE IV. William Brown. Age 52. Lawyer. Married. Home in Louisiana.

Family History. Negative.

Past History. Two attacks of malarial fever when young,—at eighteen and twenty-five. Not severe. Always been a good eater and inveterate drinker of spirits. Smoked cigarettes moderately. Chews tobacco all the time he is awake and not eating.

Present Illness. Has been losing strength gradually for over a period of years. During the last four years has lost forty pounds in weight. Combined with this has been a slowly failing memory and eyesight, and a lack of ambition. Complexion at first became waxy and sallow, now "tanned from exposure to sun". For the last three months there has been slight edema of the ankles and of soft tissues about the eyes on rising in the morning.

Physical Examination. Height five feet six inches. Weight 110 pounds. Fairly developed, much emaciated. Skin clear, but face and hands, and to a limited extent, body, show peculiar leaden-tan color. Pupils, nose and throat, negative. Teeth false. No Adenopathy. Lungs negative. Heart active, regular, no enlargement. Sounds feeble, indistinct. Pulse rapid, 110, small and easily compressible. Blood pressure 110-70. Abdomen slightly protruding. Spleen not felt. Liver edge easily felt three fingers below costal margin, smooth and hard. Genitals show slight, soft edema. Ankles the same. Reflexes normal. Blood Hemoglobin 60 per cent. Reds 3,000,000. Smear preparation moderate, secondary anemia. Blood sugar .15. Urine 24°, amount 1200 c.c. Gravity 1018. Urine sugar trace. Acetone light trace. Diacetic plus.

Diet. Protein 40. Carbohydrate 10. Fat 100. Calories approximately 1100. Calories per kilo 20.

Diet could not be enlarged without increasing sugar immediately. On this diet, patient was sugar free most of the time, but blood sugar remained above normal. Evidently not a straight, pancreatic Diabetes, but a "bronzed Diabetes". Distinguished from Addison's disease by liver enlargement, absence of pigmentation of mucus membranes and urinary findings.

Pathology much the same as in Haemochromatosis, Cirrhosis of pancreas and liver, and pigmentation of skin and internal organs. (Patient was evidently not sun-tanned because of body color.)

Treatment. The Glycosuria not being the primary cause, its treatment does not bring relief. Careful supportive treatment is the only means of prolonging life.

CLINIC OF THE MILWAUKEE COUNTY HOSPITAL.

L. M. WARFIELD, M. D.

CASE I. A small boy, nine years old, was admitted to the Hospital on July 18th, 1919, with some fever and a normal pulse, with the following history:

He was at Chicago visiting relatives when he was said to have fallen from a stump striking his head and was unable to help himself up. There was a question whether he fell from a tree, or from a stump, striking his head. However, it evidently was a sudden illness. On admission he was a boy not very well nourished, he was drowsy, he could not talk, there was apparently complete paralysis of the right side, including the face, with ptosis of the right lid. There was a dilated pupil on the right side and the tongue deviated towards the paralyzed side. It seemed that he could not hear well out of his right ear. The reflexes were all absent on the right side. Sensory sensations apparently were normal. There was a slight murmur at the apex of the heart. Otherwise the examination of the organs was negative. He had been in a hospital a year before with acute articular rheumatism and otherwise his past history was negative.

On more careful examination it was found that the boy had no difficulty in swallowing, he wished to answer questions, but could not talk. There was slight rigidity of the neck, there were no enlarged glands. The apex beat was in the fifth interspace—7 cm. from the midsternal line, regular, with a long, soft, blowing murmur at the apex, transmitted to the axilla.

When seen by me on the 21st he appeared to be perfectly comfortable, there had been slight, irregular fever, the pupils were then equal, but the right side of

the face, with the right arm and leg were paralyzed, the paralysis of the flaccid type. He appeared to understand, but could not speak. The arm reflexes were barely obtainable and the knee reflexes on the right side absent. Spinal puncture withdrew about 30 c.c. of clear, light colored, amber fluid under some pressure. Cell count 10, negative globulin with a few gram positive cocci. He developed suddenly a distended abdomen with a much increased pulse, rigidity of the neck and Kernig's sign. His condition then was markedly changed. He was apparently conscious, pupils were round, practically equal, and reacted to light. There was no strabismus. The right arm was slightly spastic with exaggerated reflexes. The right leg was beginning to be spastic with a much increased knee jerk, but no Babinski. The eye ground examination showed a haziness of the right disc towards the nasal side, and the left disc appeared choked and edematous with injected veins and edema of the retina. Another spinal puncture withdrew about 40 c.c. of opalescent fluid under slight pressure. There was slight globulin and many pus cells and gram positive cocci in pairs, mostly extra-cellular. Leucocytes then 30,000 and blood pressure 145-110.

Consideration of the whole picture with the story of a fall seemed to indicate that a decompression was necessary. An incision was, therefore, made over the left temporal region and left sub-temporal decompression performed on July 25th. When the dura was opened the surface of the brain was slightly congested, but there was no evidence of exudate, hemorrhage or fracture. There was very little increased pressure.

On the 30th, note was made that the pulse was of good volume—90 to the minute. Respiration 34, quiet. He was lying on his back with his eyes closed, did not respond to questions, but on raising his head he cried out. Neck is stiff, Kernig's sign present, left pupil larger than right, disc still choked with dilated veins, slight strabismus.

On the 3rd of August his condition was greatly improved. There was no strabismus, but still some slight asymmetry of the face. The right arm and leg had gradually become quite spastic with exaggerated reflexes. Complete paralysis of the hand. The right leg can be moved only slightly in all directions. The foot is completely paralyzed, there is no Babinski, or Oppenheim, and little or no atrophy of the leg.

On the 11th he was walking with a hemiplegic gait, but rapidly improving, using a few more words and eating well. He was getting electric stimulation, massage and strychnine.

On the 14th the eye grounds were noted to be quite clear, and on the 19th it was noted that he was walking much better, could raise the right arm almost on a level with his shoulder, some return of the biceps muscle. He was talking more. He seems quite bright. The right leg reflexes are very exaggerated, but there is no Babinski. The anterior tibial muscle can be voluntarily used. The right arm reflexes are increased. He has no use of the right hand. The patient at the present time has slight, but noticeable right facial paralysis with partial spastic paralysis of right arm and leg. He has gained in weight and is showing some improvement in return of his muscles, although still unable to use his right hand and still walking with a limp.

Discussion.

Hemiplegia in children is not so very common, and yet the hemiplegia which occurs after the sixth year is less common than that occurring before the second year. In infants the hemiplegia is usually the result of accidents at birth, where the labor has been prolonged, or there was forceps delivery. Under such conditions the children are usually mentally defective, either idiots, imbeciles, or with some defective intelligence, depending upon the amount of brain tissue destroyed by the hemorrhage.

Thrombosis, embolism and hemorrhage are all possibilities in the causation of hemiplegia in children of the age of this case. Long ago some maintained that these conditions could be caused by inflammation of the cells of the cerebral cortex analogous to that in the cells of the anterior horn of the spinal cord. Such a lesion of the upper motor segment was known as polioencephalitis. There is, however, some doubt of this distinction because of the lack of anatomical proof. Apparently this boy had a hemorrhage which must have been rather extensive following his fall. It apparently involved the structures around the anterior limb of the internal capsule because of the involvment of the speech center, which lies contiguous to the anterior limb. Fever is present in such cases. The spinal fluid of this case was slightly amber color, showing some admixture with the products of destroyed hemoglobin, and the cell count was not increased so that inflammation could be ruled out. His choked disc on the left side led us to believe that there was some intracranial pressure and we thought that there must be a hemorrhage either under or above the dura. However, this was not found at operation so that taking all the features of the case into consideration we feel that the diagnosis here was hemorrhage. Thrombosis and embolism we believe can both be ruled out because of the lack of any factor which might have produced either one. The prognosis in this case we feel is only fair. So far as intelligence goes it seems that the boy is recovering. He is also getting back some use of his muscles. It is in these cases, however, that the curious condition known as athetosis occurs, in which the hand and foot are in constant motion. This case occurred

during the epidemic of poliomyelitis and proved somewhat puzzling.

CASE 2. An old man, age 77, was admitted to the hospital on August 13th, 1919, complaining of weakness and pains in the head. He was conscious when admitted and said that about four days before he had stumbled on the sidewalk and fallen heavily on his knees and hands. He was not unconscious and he did not strike his head. He was picked up and taken to the Emergency Hospital, where he remained one night. He then went home, apparently feeling well. In three days he returned, complaining of headaches and weakness and was from there sent out to the County Hospital.

On admission he was an old man somewhat emaciated. His temperature and pulse were normal. Heart and lungs negative. The abdomen was retracted, but was apparently normal. The blood pressure was 110-78. There was some rigidity of the neck and a suggestive Kernig's sign. All joints of his body were sore and stiff and the skin was everywhere hyperesthetic. The pupils were unequal, the right larger than the left and reacted sluggishly to light and accommodation. The reflexes everywhere were much exaggerated, but apparently equal.

In his past history there was nothing of importance, except that he had been in the hospital twice with rheumatism and once with alcoholic neuritis. He had been an alcoholic practically all his life. There was some fever of an irregular type with the pulse ranging up to 120. Spinal puncture made on the 14th was under some pressure with a cell count of 1200, globulin 2+. No organisms found and Wassermann reaction negative. He lay in bed complaining entirely of his head. Due to the opacity of the media in the eye it was not possible to make an ophthalmoscopic examination. There were no paralyses of any kind, but later there was loss of the patellar reflexes. There was no Babinski, no Chaddock, but a Gordon was present on both sides.

In view of the persistent headache and a progressive weakness, with the increasing rapidity of the pulse and a history of an indefinite fall, it was considered advisable to decompress. There were no localizing symptoms, or signs, so that the decompression was performed over the right temporal region. The leucocytes at that time were 10,200. The rectal examination showed nothing of importance. At the operation there was no particular increase in pressure, the brain was possibly slightly wet, but no other abnormality was found.

Following the operation he gradually improved and on the 6th of October he had been around the ward helping with the ward work, and had practically lost all his symptoms. From the time of the operation his fever rapidly decreased and after three days was perfectly normal. His pulse also became normal and his appetite improved. He was discharged on October 6th, 1919.

DISCUSSION.

This case illustrates a condition which we have called traumatic meningeal irritation. The history of the fall and his apparent recovery, with a later development of headache, made us suspect that there was slow bleeding, either extra—or sub-dural. We have had such cases as this, so that we are always on the lookout for these cases of slow hemorrhage. However, the spinal fluid with the increase of cells and negative culture, the definite meningeal irritation, as expressed in his neck signs, the relief following decompression, and the other negative signs, seem to us sufficient to rule out any hemorrhagic injury, and further to rule out any real intracranial pressure due to tumors of whatever sort in the brain. The fact that there were no paralyses of any kind ruled out such conditions as apoplexy, and the lack of organisms in the spinal fluid seemed to rule out the question of inflammation of the meninges.

The diagnosis, therefore, stands as meningeal irritation, or what is sometimes called serous meningitis, due very likely to the shock of a fall.

CASE 3. A young man, age 23, was seen at Hospital on September 25th, 1919, brought from out of town with a history of seven weeks' illness. He had been perfectly well until a severe attack of tonsillitis about eight weeks previously. Following about a week's illness with tonsillitis he developed diarrhea, gas in intestines and severe pain in the right hip. His fever became remittent, reaching as high as 104° F. His pulse was rapid, up to 120. After about three weeks his fever seemed to be slowly receding when he had another attack of diarrhea with increase of fever. There was no cough, occasional sweating, no chills.

When seen he was a large boned man over six feet tall with considerable anemia and emaciation. The lungs were negative. The heart was rapid with an occasional ventricular extrasystole. The abdomen was flat, no tenderness was present. The right leg could not be extended. The thigh was semiflexed on the pelvis, the lower leg flexed. There was some swelling around the upper thigh. Manipulation of the leg in all directions was painless at the joint. The only pain seemed to be from stretching of the slightly shortened muscle. There was no tenderness over any vertebra.

An X-ray of the hip joint revealed no bone lesion. The leucocytes were from 10,200 to 11,400 with 74 to 80 per cent of polymorphonuclears. The urine occasionally revealed a trace of albumin. Blood culture was negative. Rectal examination did not reveal any tenderness or tumors.

X-ray negatives of the teeth showed several small apical shadows.

For about three weeks his fever was up and down with an occasional attack of intestinal disturbance which always seemed to increase the pain in the hip and increase the fever. At times there was great tender-

ness over the great trochanter, or in the groin, or at the knee. Finally it was noticed that the right iliac fossa was tense, there was tenderness, there was increasing edema of the right upper thigh. Puncture was made in three places around the hip, but no pus was obtained. His condition seemed so grave and pus seemed so surely present, judging from the symptoms and signs, that it was decided to make a deep incision in the leg. This was done under light ether anesthesia. The lesser and greater trochanters were digitally explored and nothing was found. Except for edema of the muscles no changes were found. A finger passed beneath Poupart's ligament broke into a huge abscess from which pus welled. Exploration as far as was possible seemed to locate the abscess between the iliac muscle and the peritoneum. No denuded bone could be felt. Large drains were laid. Examination of the pus showed numerous staphylococci in smear and culture grew a pure growth of staphylococcus aureus.

Within forty-eight hours the temperature was normal, the abdomen was soft, the leg could be straightened out, the appetite became ravenous and convalescence has been rapid. The heart still is rapid, but the sounds are louder. The patient was discharged, still with a slightly rapid pulse, October 30th, 1919.

Discussion.

This was a most unusual case. The history of tonsillitis followed so soon by the fever and pain in the hip seemed to indicate some septicemia with localizing lesion around the hip joint. The absence of any hip joint lesion and the negative tuberculin reaction to 1/10 mg. O. T. given intradermally apparently ruled out tuberculosis. That there was pus somewhere appeared certain, but that it should be found in such an unusual spot makes the case of great interest. Another point is the kind of organism and the comparatively low leucocyte count. A diagnosis of abscess of the hip had been made before we saw him, but this did not seem correct to us. There was no data for the diagnosis. The combination of irregular fever, leucocytosis, sweats was evidence of pus somewhere in the body, but it was over ten weeks before it could be located. Had we operated before we did we should have gone into the leg and very probably have missed the abcess. Another operation would have been necessary. There are a number of systemic accidents which are complications, or sequelae of tonsillitis. We are apt to view follicular tonsillitis as a trivial illness. Such cases as this should be kept in mind as concrete illustrations of the possible seriousness of an apparent mild primary infection.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

THE PREVENTIVE MEDICINE SECTION

During the meeting of the State Medical Society in Milwaukee, the House of Delegates provided for a new section, Preventive Medicine, of our State Medical Society. No branch of medicine has advanced so far in the past few years as has this.

For a long time the necessity of specializing has been recognized. The surgeons have by specializing developed their skill to a high degree. The eye, ear, nose and throat men have recognized that there is enough in that field to keep one busy striving toward the goal of the highest degree of skill and accuracy. Many other specialties might be mentioned as branches of medical science which are now occupying the time and attention of scientific men. So one might say that the section on preventive medicine is a recognition by the profession that the field of prevention is one which deserves the position of a specialty.

What are some of the problems of preventive medicine? The answer involves two separate and distinct phases of the work. First we have that part of public work which is distinctly non-medical and can well be taken care of by someone who, although not trained in medicine or the allied sciences, is prepared to wisely take care of public welfare problems. This part of the work we medical men are not called upon and in fact are not trained to do.

The second phase of the question is purely medical and therefore demands the time and attention of every medical man. These problems involve every specialty in the profession, and touch the actual practice of every man whether it be rural or urban. Broadly stated the problems of preventive medicine are the early recognition of disease and instruction on disease prevention. Early recognition of disease resolves itself into a matter of skillful diagnosis by a man who is never too busy to put in much of his time examining every patient who calls at his office.

I can illustrate my idea with the communicable diseases which may be divided into those which are readily communicated, as diphtheria, and those

which are not so readily communicable, as tuberculosis.

The early recognition of tuberculosis depends upon a careful examination assisted by all the instruments of precision which are recognized to be of help in demonstrating pathologic conditions in the living subject at a time before extensive tissue changes have taken place and the disease has so completely fastened itself upon the body that all efforts to get rid of it result in failure. After the disease has been recognized early the problem of treating the case becomes a matter of carefully directing the life of the patient so that the natural forces which are at work to restore the body to the normal in so far as possible will not be interfered with. These problems require the careful attention of medical experts.

The other part of the work is purely educational. If one can judge by the vast amount of literature instructing tuberculosis patients and others afflicted with a communicable disease, it would seem that the whole of prevention lies in teaching these people not to spit on the sidewalk and the general measures to be used to avoid spreading disease. As a matter of fact these are problems which arise because the primary consideration, early diagnosis, has been neglected. Of course every individual should be taught how to protect his own family and the public. That is a simple matter and can be done by any intelligent person. One does not need to know medicine to do that. The two can be easily combined. When the skilled medical man is giving his attention to the patient in a professional way he can without any loss of time and with great profit tell the patient how to protect his family and public. If the diagnosis is made early, however, little danger will result, for the patient who is shedding tubercle bacilli is one who has open lesions, which means more or less advanced lesions.

Diphtheria is a disease which is more readily transmitted. Here again an early diagnosis will prevent the disease from spreading. An early diagnosis means, of course, that all sore throats, particularly in children, must be considered diphtheria and preventive measures, isolation, immediately instituted until cultural tests show the condition not to be due to the diphtheria bacillus. In this case the activities of the man interested in public health is not restricted to a matter of isolation and quarantine. The man who can really protect the public and the family is the physician who can make an early diagnosis.

It may seem to some, then, that preventive medicine is not a specialty by itself but a requirement which must be met by each specialist in the medical field. I think that such is the case. However, at the present time early diagnosis and adequate disease prevention is not being carried out in the field of medicine, and therefore it is necessary to set preventive medicine apart to give to it distinction and to be able to better call attention to its need. This is not due to any malicious intent upon the part of the men in the profession but is rather the expression of an improper viewpoint on the part of physicians. This improper viewpoint does not come from any lack of public interest on the part of the men but indicates clearly that the medical schools of the country have been more interested in teaching pathology, its recognition in the living subject, and measures which may be used to remedy the condition, than in giving the student in addition to the pathology the viewpoint and interest of the public in preventing disease. Because of this failing on the part of the medical schools, too little importance is attached to the patient who walks into the physician's office not looking particularly sick but who says that he has not been feeling well for some time. This patient is often turned away with a pleasant remark and a box of pills.

There is a disposition in some quarters to criticize severely the medical profession for its apathy toward public health work. This is to be regretted. However, you can not expect that the medical man, who has no other means of earning the support of his family, should give as freely of his time and enthusiasm as the man who is employed at a fair salary to do this sort of work.

If physicians fail to comply with the laws governing the control of communicable diseases they should be forced to comply. Compliance with the public health laws of the State is the least that can be expected of any man and I know that no physician refuses to do this with malicious intent. For a physician to comply with the law is passive cooperation with the health authorities. Everybody has a right to expect that the medical profession as a whole give active cooperation to these authorities. This, of course, can best be done as an organized body through the State and County Medical Societies. The medical profes-

sion should make itself acquainted with the needs and requirements of the State and local health boards and see that that need is supplied. It is my hope that through the section on Preventive Medicine the medical profession of the State may take an active part in shaping the advances which will be made for the protection of the health of citizens of the State. It is also my hope that through this column the profession may be made acquainted with the plans of the State Health Board and other agencies working for better public health conditions in the State. This undoubtedly will promote the active interest of the profession in the public health activities of the State.

The province of prevention rightly belongs to the physician; not because he is in a special class and his class needs protection from public intrusion but because he is a physician, which means that he is the only man properly trained to do the job. The real work of disease prevention must be done by the physician because as we have seen the most essential step toward prevention is early and accurate diagonsis. You can't have this without having the support and cooperation of well trained medical men. It is necessary to teach the laity certain facts about the spread of disease but after they know these they have to depend upon the guidance and advice of well trained medical men. It is obvious therefore that the public is lost without the physician, the effort of the physician is fruitless without the intelligent cooperation of the public, and public health agencies are handcuffed without the hearty and intelligent cooperation of both the physician and the public. The question resolves itself into the necessity of the medical profession organizing itself so that it can give adequate medical service to all, the health agencies so organizing themselves that they can act promptly and effectively against disease, and that the people get in an attitude to support the health agencies so that funds will be available to do well what must be done. The public should not expect men who have spent years in their training to work for nothing.

The fact remains, however, that much disease occurs every year which could be prevented and many die whose lives could be prolonged. The blame for this lies partly with the medical profession, partly with the public, and partly with public health agencies. It is imperative that we all get together to do business. The state medical profession must not be passive any longer, it must be active. It must be acquainted with the plans of campaign worked out by the various departments and agencies doing preventive disease work and adopt those plans as part of the purpose of the profession if they are good enough and, if they do not go far enough, then the profession should amend them and work for their adoption.

INFLUENZA VACCINES

Just a year has passed since the great and awful epidemic appeared in Wisconsin. At this time last year the physicians were overwhelmed in a day with sick calls and the communities were frightened into a panic. Naturally, under such stress, and the fear of such a mortality, the physicians and the public were ready to grasp anything which offered relief. The first thought everywhere was, of course, prevention by specific immunization, vaccines. Soon the papers were full of this or that vaccine which reports showed to be effective as a preventive agent. The result was that literally barrels of dead bacteria of one kind or another or all kinds suspended in salt solution were used. In only a few instances was there any attempt to accumulate any accurate data under properly controlled conditions to determine the real value of these vaccines. Every physician who used any kind of vaccine made up his mind from cases as he happened to remember them as to whether the vaccine he used was effective in preventing influenza. The literature, therefore, shows a mass of conflicting reports.

But now that we are starting a season when we expect a recurrence of influenza, if it is to recur, it is time to consider carefully what we know about influenza, and the value of influenza vaccines. The literature has some very well considered contributions, which it is good for physicians and the public to contemplate at this time.

In order to understand thoroughly the prevention of a disease it is necessary to know its cause, how it is spread, the immunity, if any, produced, and the results of the methods used to control its spread. We will consider first because it is most important the cause of influenza.

In 1891 Pfeiffer described a bacillus for which he preempted the name "Influenza Bacillus." This, although there never was any convincing proof that it was the cause of influenza, had come to be

quite generally accepted and had found its way into all the text books on bacteriology as the Influenza Bacillus. It was natural, therefore, that the first thought was of Pfeiffer's bacillus. As the epidemic progressed the reports from bacteriologists over the country were no more in accord than reports of bacteriologists abroad during previous epidemics. Early in the epidemic came the report that influenza bacilli were being found in a high percentage of the cases. Keegan made cultures from a number of cases at the First Naval District at Chelsea, Mass. Out of twenty-three cases nineteen showed influenza bacilli. In some nothing but influenza were found, in some pneumococci, and some hemolytic streptococci.

In the middle west Opie, Freeman, Blake, Small and Rivers reported the examination of a number of cases in all of which they found influenza bacilli. In every case, however, other bacteria, pneumococci, were found.

In 100 cases in Chicago, Nuzum, Pilot, Stangl, and Bones found pneumococci and streptococcus hemolyticus to be the predominating organisms. They believed that the pneumococci of unusual virulence were the most early secondary invaders. They believed that influenza bacilli were less important than any.

The above is a short review of the bacteriological results reported by a few representative investigators. The review could be made to include many more but we would be no closer to a conclusion. There is no agreement in the bacteriological reports. It is probable that a review of the literature of all the camps and from other sources would show that the pneumococci were more frequently isolated than any other organisms; at least an organism that resembles in some of its characteristics the pneumococcus.

Before leaving this part of the inquiry it is instructive to see what Dr. Park of New York City has to say on the bacteriology of Influenza. The following are some quotations from him.

"The reports from different investigations in Europe have been most conflicting. Influenza bacilli were found in some localities to be present in nearly every case, while in others bacteriologists isolated them from only a small minority of the patients.

In their place, pneumococci, streptococci and gramnegative micrococci were found. Frequently, several varieties occurred together. A few observations in France and England indicated that a filtrable virus was present in at least some of the cases. As a filtrable virus had already been demonstrated in outbreaks of common colds, when no epidemic existed, this information, in spite of its great interest, simply added one more line of investigation."

Under the heading of "Necessary Proof" the same writer says:

"To identify a micro-organism as the cause of a widespread epidemic, the germ must be capable of producing the type of disease under investigation; it must be present in the advancing area in all cases at the beginning of the infection, and in any outbreak it must have the same characteristics when freshly isolated from different patients. The repeated transfer of a pathogenic germ from patient to patient allows the most characteristic forms to increase, so that until an epidemic is on the wane we find that isolations from different cases from different localities are practically identical. When the different cultures are grown in artificial mediums, under suitable and similar conditions, the isolations from different sources will continue to hold their characteristics sufficiently to be studied and compared."

After making the statement that to prove that any given organism is the cause of an epidemic the same strain must be present in all cases, he shows the results obtained in an investigation conducted by himself and Williams. The results of this investigation do not show one strain but different strains. He says:

"It was found that from the same case either all or the great majority of isolations were identical in their reactions, but that the majority of the isolations from different cases differed from each other either completely or essentially. The results seemed to show that influenza bacilli, like pneumococci, have gradually through the years altered on the mucous membranes of healthy carriers into many strains which, while having many essential characteristics in common, are still different in their susceptibility to specific immune substances and perhaps in other reactions."

His concluding paragraph is:

"Our final conclusion is, therefore, that the microorganism causing this epidemic has not yet been identified."

It seems then that a study of the bacteriological

reports are only confusing. They bring us no nearer to the answer of our question, what is the cause of influenza, than we were when the epidemic started.

If the bacteriological data is inconclusive and conflicting, other experimental work affords nothing better. What we are looking for is some information which will give us some reason to believe that all the so-called influenza vaccines are not a shot in the dark, and to assure us that if it must be a shot in the dark that no real harm is done. If we see specific immunity through a vaccine we naturally expect that the specific cause of the disease is incorporated in the vaccine in some modified form. So far, however, the bacteriological results have not shown that B. influenza or any other organism can be said to be the guilty organism. Other experiments have been carried out to determine, if possible, the guilt of the influenza bacillus and how influenza is spread. To throw light on these questions a most interesting set of experiments were carried out on volunteers obtained from the navy by officers detailed for this work from the U. S. Navy and Public Health Service.

The volunteers were all of the most susceptible age, between 18 and 25. None of these volunteers had had influenza. At first the experiments were very cautious. They administered only a small amount of a pure culture of influenza into the nostrils of a few of the volunteers. No harm resulted. Then to quote from the paper of Dr. Rosenow the following experiment was carried out.

"As the preliminary trials proved negative, we became bolder, and selecting nineteen of our volunteers, gave each one of them a very large quantity of a mixture of thirteen different strains of the Pfeiffer bacillus, some of them obtained recently from the lungs at necropsy; others were subcultures of varying age, and each of the thirteen had, of course, a different history. Suspensions of these organisms were sprayed with an atomizer into the nose and into the eyes, and back into the throat, while the volunteers were breathing in. We used some billions of these organisms, according to our estimated counts, on each one of the volunteers, but none of them took sick."

Other severe tests were performed with no results. In the light of these experiments, some of the statistics used to prove the value of various vaccines and other preventive measures become less significant. If these 100 volunteers had been vaccinated before being subjected to such a severe test, there is no doubt but that for the time being the success of the vaccine used would have been considered proven.

If influenza is not caused by the influenza bacillis, staphylococcus, streptococcus, or pneumococcus, why do we expect specific prevention to result from inoculation with these bacteria? To protect against these organisms as secondary invaders is the obvious reply. But only in the case of pneumococci of the fixed types have we much reason to expect much of an immune response, and even then the final word has not been said. All the accumulated information indicates that a mixed vaccine is nothing more nor less than a shot in the dark with all the odds against the shot.

Some may argue that in spite of all of the negative findings bacteriologically and otherwise the vaccine is reported to work. This argument, of course, must be met. If a thing works then that is all we want so far as results go. But do they work? Have the inoculations been properly controlled so that the opinions rendered readily by every man who used a vaccine are really valuable. I think this has been most effectively answered by Dr. McCoy, Director, Hygienic Laboratory, U. S. Public Health Service.

"Now, it is plain that if, after the epidemic is well under way, we vaccinate a portion of the persons in a population, the percentage of persons attacked will be smaller among the vaccinated than among the non-vaccinated, because a percentage of the total number of cases will have occurred before the vaccine is given. Not only does this introduce an error by counting in the control, or non-vaccinated group, cases that have occurred early, but also it leaves a select group to be vaccinated, wholly or in part, in which the percentage of susceptibles is smaller than in the original group of which they formed a part.

"We must also remember that a vaccine can scarcely be expected to exert any appreciable prophylactic effect before from seven to ten days after the vaccine is given, since a week or more is required for immunity to develop. A comparison is fair which considers, among both vaccinated and non-vaccinated, only cases that have occurred, say, ten days or more after the vaccinations are made.

When the influenza bacillus vaccine was sub-

mitted to such critical tests as the inoculation of approximately half of the individuals in institutions, or in other large groups, its failure became apparent. A few examples of this are worth citing. Hinton and Kane were able to vaccinate about half of the patients at an epileptic colony long enough before the disease became prevalent in the institution to justify the drawing of conclusions from their data. On the basis of this experiment the authors reach the obvious conclusion that the vaccine was without value."

He concludes by saying that although uncontrolled use of vaccine may lead to the general impression that it is of value, in every case under perfectly controlled conditions it has failed to influence in a definite way either the morbidity or the mortality.

In the face of these results, negative bacteriological findings so far as locating the cause of influenza is concerned, the influenza bacillus as the cause of the epidemic denied, immunity conferred by all of these bacteria in doubt save probably the fixed type of pneumococci, experimental attempts to transfer influenza to supposedly susceptible individuals a failure, and under perfectly controlled conditions the mixed vaccines shown to be without effect to prevent influenza, it seems that there is little or no reason to expect much from the mixed vaccines. Is it desirable to do something when nothing is known to do? Haven't we all been taught, when in doubt, don't? Has not the physician often done more harm by doing something when he didn't know what to do than good?

If the above is the state of the mixed vaccines or the so-called influenza vaccines, what can we say for the pneumococcus vaccine? In this case there is much reason to be hopeful.

The pneumococcus vaccine contains portions of the fixed types of pneumococci, types I, II, and III. It is not possible at this time to go into the history of this vaccine, and the work done with the various types of pneumococci. Lister, who introduced the vaccine, made very optomistic reports. These, however, are being called into question. Cecil and Vaughan, who conducted some pneumococcus vaccine inoculations at Camp Wheeler feel that their results were obscured by the epidemic. They feel that it had true prophylactic value. The fact that certain pathogenic pneumococci had good antigenic properties was shown by Neufeld and Handel in 1909.

There seems to be good reason to believe that pneumococci are effective in producing immunity; and therefore afford protection against true lobar pneumonia. It is not expected to afford protection against influenza pneumonias.

The State Laboratory of Hygiene is preparing the pneumococcus vaccine in quantity and will be able to distribute a good quantity this winter.

WAR NOTES

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY.

McNicholas, L. T., Athens.
Ruka, E. A., Boscobel.
Lyon-Campbell, A. F., Florence.
Grissom, C. B., La Crosse.
Devine, C. B., Marshall.
Darling, F. E., Milwaukee.
Hansen, J. W., Milwaukee.
James, A. W., Muscoda.
Davin, C. C., New Richmond.
Buell, H. A., Prairie Farm.
Johnson, A. T., Sauk City.
Rydell, C. B., Superior.
Christensen, J. W., Westby.

BOOK REVIEWS

THE MEDICAL CLINICS OF NORTH AMERICA, Chicago Number, Vol. 3, No. 1, July, 1919. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. Price per year, $10.00.

This number of the "Clinics" does not seem to the Reviewer to be as uniform in its contents as were others of the series. There are several interesting case reports and brief articles, but the impression gained is that the cases are hurriedly presented and lack careful study. Haste is, unfortunately, a sign of our restless times, but it seems that this haste should not be allowed to creep into such a volume as this. On the whole this volume does not come up to the standard set by others of the series. L. M. W.

THE MEDICAL CLINICS OF NORTH AMERICA. Volume III, Number 1. (The Chicago Number, July, 1919). Octavo of 277 pages, 59 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Published Bi-monthly. Price, per year: Paper, $10.00; Cloth, $14.00.

This number of Medical Clinics of North America carries in it a very rich supply of knowledge, on a variety of medical and surgical subjects, and is well worth the attention and perusal of all practitioners. The papers on peripheral nerve injuries and their surgical treatment, are especially commendable. An article on the methods of examining in the diagnosis of abdominal tumors, by Dr. Daniel N. Eisendrath, will aid considerably in making a differential diagnosis in many of these complex problems. The number is neatly gotten up and all of the articles are very well illustrated.

"DOC."

I doubt not each of you knows some chap,
You would like to wallop, and whack and slap,
And tumble over, and kick, and beat,
And trample down in the mud of the street;
He's found from Houston to Manitowoc—
The dubber who dubs the Doctor "Doc."

Out there in the country, from day to day
As you jog along on the King's Highway
He calls as soon as you come in sight,
And asks with an air of supreme delight,
As glad and gay as a Cuckoo Clock—
"Which way be you goin' this mornin', Doc!"

In town and city this impious imp
Goes up and down with a last year's limp,
With arms akimbo, on hunch back hips,
With a bone-yard yawning between his lips,
And head as soft as a basswood block,
And grins and greet you with "Howdy, Doc!"

If you step out of your office door
To buy a book at a nearby store,
Or go to the druggist's to pay your bills,
Or order a box of Sis Pinkham's Pills,
This old gong-beater gives you a shock
With his loud, "Hello, what's your hurry, Doc?"

At the livery barn, where you keep your horse,
There you'll encounter this living corse,
With a hang-dog air, and a whipped-dog whine,
And whether the weather be foul or fine,
He will ask in a voice like a broken crock,
"How do you like this weather, Doc?"

When you go to Church or to Sunday School,
You stumble onto this self same fool,
Whose only joy is in asking you
The silly question that all fools do,
The question that all of them keep in stock,
"How did you like the sermon, Doc?"

And some fine evening, or splendid morn,
When you are called, and a child is born,
You can't get out of the cottage gate,
Till you hear this chump with an empty pate,
Ask, in the pride of the barn yard cock,
"Is it a boy or a baby, Doc?"

When a patient dies, and is laid away,
To moulder back into primal clay,
You're scarcely out of the chapel door,
Till you hear the voice of this brutal bore,
Saying, "It must be an awful shock!
How did you come to lose him, Doc?"

And so it will go till the end is reached,
And our funeral sermons have been preached,
We still shall meet in our daily round,
This butting-in, blathering, brainless hound,
This gibbering, Chinese Jabberwock,
The dubber, who dubs the Doctor, "Doc."

—*Henry W. Roby, M. D.*, Topeka, Kan.

SIBERIAN COMMISSION REPORTS.

Activities of the American Red Cross will be continued in Siberia because of the great need of the people in that region. Continued fighting has prevented the return of hundreds of refugees to their homes before the coming of winter. This means that the crowded conditions due to inadequate housing and poverty will cause widespread sickness and there is no other agency to combat disease in the country except the Red Cross.

Reports of the Siberian Commission, just received, tell that the military hospitals are in a most wretched state. Surgical supplies and medicines are practically exhausted. There is no bed linen. Absence of soap and disinfectants makes cleanliness and asepsis impossible. The hospitals themselves are frequently amusement pavilions, monasteries, or clubs which have been converted into wards. Patients are brought in on trains of cattle cars stuffed with dirty straw. At one hospital the doctor said that because of the condition in which the patients were brought to him, the mortality rate was ten per cent.

Medical and nurses' staffs have been greatly depleted through the contraction of typhus, exposure, and the descent of the Bolsheviki who carried away physicians with them. In several cases woman doctors were found to have been drafted into service and were in charge of the hospitals. High praise is given to the brave Russian women who have been fighting disease and wounds in the midst of such unfavorable conditions for five years, with such terrible odds against them, and suffering not only from privation but from uncleanliness, vermin, and the diseases themselves.

The Red Cross is operating several hospitals during the emergency. Preparations are being made for the expected increase of typhus and small pox cases which is sure to come with winter.

One of the most interesting phases of the relief work being done in Siberia by the Red Cross is the operation of a hospital in Tomsk. The Medical College of that city operates a hospital during the winter months which is closed, temporarily, every summer; this year the Red Cross secured permission to continue the hospital. The salaries of the doctors were paid, and also the expense of equipment and upkeep. American Red Cross doctors have been working in the hospital in cooperation with the Russian doctors.

As fast as trains can be sent, equipment and supplies are going to the military hospitals. With the coming of spring, medical and nursing members of the commission hope that the health conditions of the country will be greatly improved.

BOOK REVIEWS

VEGETATIVE NEUROLOGY. The Anatomy, Physiology, Pharmacodynamics and Pathology of the Sympathetic and Autonomic Nervous Systems. By Dr. Heinrich Higier, of Warsaw, Authorized Translation by Walter Max Kraus, A. M., M. D., New York; Nervous and Mental Disease Publishing Company, 1919, 3617 Tenth Street, N. W., Washington, D. C. Price, $2.00.

The subject of this book is the nerve supply of all automatically acting organs having a smooth musculature as well as the secretory parts of glands, both those whose secretions are external and those which elaborate internal secretions.

This is a timely book, especially as at the present day the vegetative and the so-called autonomic functions, the racial, phylogenetic functions as distinguished from the individual, animal or ontogenetic functions are receiving a greatly increased measure of attention and study, due to the fact that they have been neglected and also that the means of study and research into the ultimate anatomy and physiology of these organs is in its infancy. As the author states in his introduction, this "branch of medical knowledge which plays a small role in clinical medicine is neglected by the majority of physicians."

The author first expounds the vegetative nervous system under three divisions: He places first the regulation of the blood supply as follows:

I. "Arterial branches or vascular plexi. This includes (a) cranial or carotoid plexus. (b) Thoracico-aortic plexus. (c) aortico-abdominal plexus.

II. Peripheral branches connecting with the important cardiac branches.

III. Communicating branches connecting sympathetic ganglia with anterior spinal roots." The latter an important connecting path between sympathetic and central nervous systems.

Then follows a detailed description of the "metamere" the typical segment of the vertebrate spine and discusses the remarkable evolutions and transformations which characterize the development of the brain centers of the higher vertebrates; the telencephalon, diencephalon, mesencephalon, metencephalon, myelencephalon which are evolved ultimately from the humble "metamere." The sympathetic system is termed "the Alpha and Omega of the visceral system but also the bearer of the burden of the mechanical work of our vegetative life."

We should exceed our allowance of space in attempting to expound the fascinating lore of this book which deals with the phenomena which have always formed the deepest mysteries in the working of body and brain and it is a satisfaction to observe and record that these mysteries are beginning to be elucidated as the culmination of ages of painstaking study and research.

A sentence taken from page 30 gives a hint of the interesting phenomena which form the theme of this book: "Strange as it may seem, it is true nevertheless, that we should be without shame did we not blush, and without rage if our muscles did not contract, our heart beat more rapidly and thump in our breasts, and if we had not all those other changes in our vegetative organs which accompany the emotional activity of rage. 'That the mind acts upon the body and the body acts upon the mind in that important sphere of psychic activity. the emotional, is quite clear.'"

We can commend this book to the attention of all our readers and we feel sure the study of it will widen the horizon of thought upon the subject of the vegetative nervous system. R. D.

CHEMISTRY FOR NURSES. F. N. Peters, A. M., Ph. D. Illustrated. C. V. Mosby Company, St. Louis, 1919. Price, $1.75 net.

This little book, simply written so that all may understand, covers the essential points in chemistry such as are needed in the approved courses for nurses' training. It is a work of 300 pages divided into 26 chapters with an appendix giving the names and formulas of the more common chemicals, tables of weights and measures, solubilities of common compounds, toxicology, and other useful information. This is followed by a glossary for the ready reference of the student nurse. It measures up to the former publications in this excellent Mosby series of manuals for use in the training school.

A LITTLE PREVIOUS.

"Well," said the doctor, "how do you feel today?"

"Oh, doctor," replied the patient, wearily, "I am suffering the torments of the damned."

"What! Already?" inquired the doctor, pleasantly.—*Medical Standard.*

THE NEXT BEST THING.

"Have you an isolation hospital in this town?" asked the stranger.

"No, but we've got a Carnegie Library. If you want to be all alone with yourself for an hour or two, go up there."—*Chicago Record-Herald.*

"You are beaten to earth, well, well, what's that?
Come up with a smiling face;
It's nothing against you to fall down flat,
But to lie there, that's disgrace.
The harder you're thrown why the higher you bounce.
Be proud of your blackened eye;
It isn't the fact that you're licked that counts,
But how did you fight, and why?"

EXPERIENTIA DOCET.

A venerable professor of a noted medical college was addressing the graduating class.

"Gentlemen," he said, "you are going out into the world of action. You will likely follow in some degree the example of those who have preceded you. Among other things you may marry. Let me entreat you to be kind to your wives. Be patient with them. Do not fret under petty domestic trials. When one of you asks your wife to go driving, do not worry if she is not ready at the appointed time. Have a treatise on your specialty always with you. Read it while you wait, and I assure you, gentlemen," and the professor's kindly smile seemed to show a trace of irony, "you will be astonished at the vast amount of information you will acquire in this way."—*Tit-Bits.*

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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The Wisconsin Medical Journal, Official Publication

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Waupaca	E. W. Jones, Weyauwega	H. A. Jefferson, Clintonville.
Winnebago	F. G. Connell, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. C. Hayward, Marshfield	Wm. Hipke, Marshfield.

SOCIETY PROCEEDINGS

CALUMET COUNTY

The Calumet County Medical Society held its annual meeting Thursday evening, October 30, at the Hilbert Commercial Club Rooms. Supper was served at the Hotel Wisconsin. The election of officers was held and Dr. E. Rathert of Chilton was elected president; Dr. C. F. Lawler, Hilbert, vice-president; Dr. C. Meyer, New Holstein, secretary.

DANE COUNTY

The Dane County Medical Society entertained at a dinner at the Madison Club on October 28, Dr. E. C. Rosenow of the Mayo Foundation being the guest of honor.

His address was given in the Assembly Hall of the Madison High School and was open to the public. He gave an inspiring resume of his work in the discovery of the virus of Anterior Poliomyelitis, and the successful employment of his serum in two epidemics.

The Society took the following action: That the Committee on Public Health should consult and cooperate with the School Board, and strongly recommend the appointment of a full time School Physician.

It also determined to organize a series of six free public lectures to be given monthly during the winter, upon questions of Preventive Medicine and Public Health.

H. P. Greeley, M. D., *Secretary.*

EAU CLAIRE COUNTY.

A meeting of the Eau Claire County Medical Society was held October 29, 1919. Supper was served at the Galloway House at 7:30 P. M., after which Doctors J. C. Baird and Ivar Stoland gave interesting talks on their war experiences.

JEFFERSON COUNTY.

Fifteen members of the Jefferson County Medical Society met at the Fort Atkinson Club, October 30, 1919, and listened to Doctor Seeger of Milwaukee read a very interesting and educational paper on the "Diagnosis and Treatment of Goitre". After the talk by Doctor Seeger, the physicians present were entertained by Dr. R. C. Morris, president of the society, at a 6:30 dinner.

MANITOWOC COUNTY

A very successful meeting of the Manitowoc County Medical Society was held at the K. C. hall at Manitowoc, October 15. Dr. D. R. Connell of Beloit gave a very fine paper, "Some Difficult Diagnostic Surgical Problems", illustrated with case histories. Dr. T. J. Snodgrass of Janesville gave a very interesting talk and showed some fine fracture slides taken in France. District Councillor Zierath of Sheboygan attended the meeting, as did a number of the Calumet County Medical Society members.

MILWAUKEE COUNTY.

A meeting of the Milwaukee County Medical Society was held in the Hotel Wisconsin, October 10, at 8:30 P. M. Dr. Ira F. Thompson of the State Board of Health, and Dr. Robert E. Oleson of the U. S. Public Health Service, addressed the society on the "Venereal Disease Problem". Dr. B. C. Roloff, executive secretary of the Illinois Social Hygiene League, discussed the same problem with relation to the fight on venereal disease in Illinois. A resolution was adopted requesting the appointment of a committee of three to consider the advisability of establishing a free clinic for "dope" addicts.

OUTAGAMIE COUNTY.

A meeting of the Outagamie County Medical Society was held September 30, in honor of the returned service physicians of the county at the Y. M. C. A. The meeting was preceded by a supper at 6:30 o'clock after which short addresses were given by the over-seas men and other members of the organization.

ROCK COUNTY

The Rock County Medical Society held its monthly meeting at Edgerton, October 28, in Culton Memorial Hall. A six o'clock dinner was served at the Carlton Hotel, after which Doctor Charles Mix of Chicago addressed the society on internal medicine.

TREMPEALEAU-JACKSON-BUFFALO COUNTY

The Trempealeau-Jackson-Buffalo County Medical Society held its fourth meeting of the year at Fountain City, October 23. As this was the annual meeting, the election of officers was held and all of the 1919 officers were re-elected. Dr. Rickey of St. Paul addressed the society on "Appendicitis—Pyelo Nephritis and Pernicious Vomiting in Pregnancy", after which lantern slides on plastic surgery were shown. A banquet was given at the Fountain City Hotel at 6:00 P. M., with Dr. J. P. Reinhardt as host.

C. F. Peterson, M. D., *Secretary.*

WAUPACA COUNTY

A meeting of the Waupaca County Medical Society was held at Weyauwega, September 30. The following officers were elected for the coming year: Dr. E. H. Jones, president; Dr. P. J. Christofferson, vice-president; and Dr. H. A. Jefferson, Clintonville, secretary. An interesting paper was read by Dr. Frank Russell of Weyauwega.

WINNEBAGO COUNTY

The Winnebago County Medical Society held its regular meeting, November 6. A dinner was served at 6:00 P. M. at the Hotel Athern after which Dr. W. A. Evans of Chicago addressed the society on "The Aftermath of Influenza."

ASSOCIATION NEWS

CHILD WELFARE CONFERENCE

The conference of agencies interested in child welfare movement was held in Madison on October 9—having been called by the new division of child welfare of the State Board of Health, Mrs. H. H. Morgan director of same, presiding.

The organizations and agencies presented through their delegates an outline of their present established work, and future possibilities. There was a free discussion of ways and means relative to the establishment of a state wide child welfare movement.

As many organizations at the present time duplicate efforts and expense in their work, suggestions were offered that there should be some central clearing house or agency in order to avoid this as much as possible in the future. It was voted that a committee be appointed from the interested agencies by the Board of Health, which should convene at some future date.

It was clearly shown that at the present time the State Board of Health has not the financial means to carry on the extensive and necessary child welfare work throughout the state which it desires to undertake, and which naturally is part of its duty to the child citizens of our commonwealth.

The impressions gathered by your delegate were that for the present the agencies interested in child welfare work must for the time being continue their work as zealously and progressively as heretofore, until such time as the State Board of Health shall receive sufficient funds to take up the burden in part or whole.

Dr. Stovall stated that the new Public Health Section of our State Society might fittingly undertake to interest the physicians in the welfare work, through his column in the State Medical Journal.

The following organizations were represented:

Wisconsin Anti-Tuberculosis Association.
American Red Cross, Central Division.
Industrial Commission.
Board of Control.
University Extension Division.
Agricultural Extension Division.
University Clinical Medicine.
State Medical Society.
Board of Nurses' Examiners.
Federation of Women's Clubs.
War Mothers.
Board of Health.
Central Council of School Agencies.
Milwaukee Branch, American Red Cross.
Congress of Mothers and Parent-Teachers' Association.

J. Gurney Taylor,
Delegate of State Medical Society of Wisconsin.

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Anciere Internes on Chirurgic des Hoptiaux de Paris.
Chirurgiene des Hopitaux.

My dear Mr. Campbell.

As soon as I have been back from the States in France, I did my best to organize a meeting of my colleagues in Paris and I had the pleasure to succeed in the foundation of an "Association" for the development of the Medical relations between France and America.

The first board is composed with:

Dr. Hartmann, President.

Cosset, Duval, Besancon, Riet, Regaud, Armand-Deliele, Heitz-Boyer, members.

Dehelly, Coebron, Secretaries.

The first general meeting will be held in Paris at the beginning of October. Before this meeting, I should be glad to receive suggestion from you and your colleagues. You know better than we do what is necessary to organize in France to receive your students and your doctors.

Already we are organizing post graduate schools, office of information and a club. I think also that the publication of a medical journal in English and French would be very useful for better knowledge of the work of each other.

I should be glad if you can ask to the president of the Medical Society of Milwaukee and to the Drs. Curtis Evans, John L. Yates, Wenstrand and Seaman, who were so kind to me in Milwaukee to give me any suggestions for the organization of our work in France.

Be good enough to give me your opinion and your suggestions as soon as possible.

Our association embraces all the branches of the medical activity, but I think that in the future we will have to organize separate meetings for each branch. However, I hope that the United States will found a similar association to meet with us and work in the same aim.

Very sincerely yours,

Dehelly.

Havre, September 4th, 1919.

NEWS ITEMS AND PERSONALS.

Estimates have been submitted to the commissioner of public works, Milwaukee, for proposed additions to the Blue Mound Sanatorium and the South View Hospital. A venereal disease hospital is proposed in connection with the latter institution at an estimated cost of $193,000 together with a nurses' home to cost $30,000. Only $130,000 is available at the present time for all of the work, which it is said will be deferred for another year for lack of funds. At the Blue Mound Sanatorium, an administration building is contemplated which will cost $40,000 together with a recreation hall and cottages aggregating $136,000. Lack of funds will also delay these building operations until some time next year.

Dr. Ned J. Malloy, a former resident of Fond du Lac, who has been practicing medicine at Northville, Michigan, for the past four years, has returned to Fond du Lac and opened a suite of offices for the practice of his profession.

A drive for $300,000 has recently been held in Milwaukee County by the directors of the Milwaukee Children's Hospital for building a hospital that will excel anything of the kind in the country. The plan is for a complete hospital with at least 100 beds. Complete operating rooms will give opportunity for more work for the children and it is likely that the present hospital at Tenth and Wells streets will house the outpatient department. More than 1,200 children are treated each month. A free milk station or a penny milk station will also be maintained. The new hospital will be located at Seventeenth street and Grand avenue.

Stella S. Matthews, Milwaukee, was elected president of the Wisconsin Association of Graduate Nurses at their tenth annual convention, October 8.

Dr. W. E. Buckley of Hartford, who recently returned from service over-seas, has located in Fond du Lac.

Dr. Lyman Copps of Chicago, eye, ear, nose, and throat specialist, has located in Marshfield where he will be associated with Doctors H. A. and J. B. Vedder. Doctor Copps has but recently returned from overseas service.

On November seventh, the River Falls City Hospital was transferred from its location on Fourth street to the Parker House as the former quarters were not suitable for winter use as a hospital.

After twenty-two years as superintendent of the State Home for the Feeble-Minded, Chippewa Falls, Dr. A. W. Wilmarth has tendered his resignation to the State Board of Control.

Dr. G. R. Reay has resumed his practice in La Crosse after twenty months of service in the army.

The site of the tri-county tuberculosis sanatorium, Pureair, just south of Bayfield, has been added to by the donation of twenty acres by Frank V. Holsten, a former Indian farmer on the Red Cliffe reservation. With this addition, the site will be the largest tract of land in the state devoted exclusively to hospital purposes.

Eleven nurses of the Columbia Hospital school for nurses received their diplomas at commencement exercises held October third.

Dr. A. L. Olson has resumed his practice in Stoughton after two years' service in the medical corps of the army.

Dr. A. J. Randall, who gave up his practice in Kenosha nearly two years ago to go into the service of the Canadian army, has returned to Kenosha and resumed his practice.

The following officers were elected at a meeting of the Wisconsin Anti-Tuberculosis Association, October 30: Dr. J. W. Coon, Stevens Point, President; Dr. J. R. Currens, Two Rivers, first vice president; Mrs. Ben Hooper, Oshkosh, second vice president; John H. Kopmeier, Milwaukee, treasurer; Dr. J. Gurney Taylor, Milwaukee, recording secretary.

Dr. John W. Hansen has returned from military service over-seas and resumed his practice in the Palace Theatre Building, Milwaukee.

Dr. J. H. Henken has opened an office for the practice of medicine in Racine. Previous to this time, he had served for a year and a half on the resident staff of St. Luke's Hospital, Chicago, and also on the medical reserve staff of the U. S. Navy.

The doctors of medicine and dentistry of Neenah and Menasha assembled at the Hotel Menasha, October 22, to attend an eight o'clock banquet given in honor of the Twin City physicians who served in the army or navy during the recent war.

Dr. Wellington W. Hume, graduate house surgeon of the Manhattan Eye, Ear, and Throat Hospital, New York City, has opened offices in Milwaukee.

Dr. Ronald B. Rogers, Neenah, medical officer on the U. S. S. DeKalb, arrived at his home October second. He expects to go east soon to take up a post medical course in St. Vincent's Hospital, New York, and at the expiration of this course will take up practice in Neenah.

Marquette University plans to break ground for a new dental building at Sixteenth street and Grand avenue, the new building being necessary because of the steadily increasing enrollment in the collége of den-

tistry. This is now the largest in its history, over 300 being enrolled.

Dr. W. S. Alexander, who has been engaged in the practice of medicine at Oakfield for the past twenty-one years, moved to Fond du Lac November first to take up practice there.

Dr. George D. Whiteside of Plover, who has recently returned from over-seas service with the Red Cross, has been awarded the commission of major.

The monthly clinical meetings have been resumed at the out-patient department of the Milwaukee Children's Hospital on the third Thursday of every month, at 4:30 P. M. All physicians and medical students are welcome. These meetings are purely clinical and interesting hospital cases are demonstrated and discussed.

Dr. L. O. Voorus of Beaver Dam has received his discharge from the medical corps of the army and has again resumed practice with his father, Dr. C. W. Voorus.

Dr. and Mrs. James Turner of Waupun recently celebrated their golden wedding anniversary. Doctor Turner graduated from the University of Michigan in 1872, after which he practiced medicine in Oshkosh, Brandon, and Waupun, but has now retired.

Dr. E. S. Knox of Bowler has started the practice of medicine at Green Bay. He recently returned from over-seas.

Dr. Robert Zaegel has opened offices in Sheboygan. He formerly practiced in Chicago and in Denver, Colorado, and has recently returned from service over-seas.

Dr. L. T. McNicholas, recently discharged from the navy, has been visiting in Athens and expects to leave for La Crosse where he will take up practice.

The Rockefeller Institute for Medical Research has announced that John D. Rockefeller has added $10,000,000 to his previous gifts to that institution, making its total endowment more than $27,000,000. Additional research in biology, chemistry, physics, and medicine will be carried forward by reason of the new gift and general enlargement of the scope of activity of the institution will result.

Dr. H. A. Buell has removed from Prairie Farm to Ladysmith where he will continue his practice.

Dr. L. A. Moore has returned from service, in which he served as a major in the medical corps of the 32nd Division, and will resume his practice in Monroe.

Dr. A. J. Berger, formerly of New Holstein and lately located at Oshkosh, has decided to remove to Albuquerque, New Mexico.

Dr. Alexander Drill has been appointed house physician of the Emergency Hospital, Milwaukee, following the resignation of Dr. Louis Eisenberg.

The Madison General Hospital is to receive $45,000 of the $50,000 estate left by Miss Mary Bunn, daughter of the late Judge Romanzo Bunn.

A new X-ray machine has been installed in the hospital at Mauston, at a cost of $1,500.

Doctors E. H. Jones and F. H. Russell of Weyauwega have purchased a large residence there which they are having remodeled into a hospital.

Dr. A. C. Edwards, who has been engaged in the practice of medicine at Arcadia for a number of years, has removed to La Crosse and entered into partnership there with Dr. R. D. Thompson.

Stanley launched a campaign, November third, to continue ten days, to obtain funds for a hospital which will serve as a memorial for the soldiers and sailors. A corporation will be formed to embrace every man, woman and child in Stanley and surrounding country, and it will be capitalized at $60,000.

Dr. D. N. Alcorn, who has practiced medicine in Stevens Point for twenty-five years, has removed to Monrovia, California, where he will reside with his son.

Ripon plans to buy and equip a hospital which will be turned over to the Deaconess' Society of the Evangelical Church for maintainence.

Dr. John E. Bentley has returned from army service and taken up his practice in Portage.

Dr. J. N. Doyle of Princeton has removed to Wausau where he will practice medicine and surgery. Doctor Doyle has just recently returned from over-seas service.

Milwaukee county will build a hospital of 500 beds costing approximately $1,600,000 as the result of recommendations made to the county board by the joint committees on county and state institutions, public buildings and grounds, and finance.

A handsomely engraved loving cup, the gift of patients of Muirdale, and a heavy platinum ring, bearing the Masonic emblem, the gift of the staff and employes of the institution, were presented to Dr. Harry Cohn, at a farewell party given in his honor by Muirdale patients and employes Wednesday evening, October 1. Dr. Cohn resigned as associate medical director of Muirdale to become director of the new Milwaukee county dispensary.

Rules, having the effect of law, for the prevention and control of influenza have been adopted and of-

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ficially published by the state board of health and are now of general application throughout the state. Foremost is the requirement that every influenza case be quarantined as in any other communicable disease.

A free pharmaceutical dispensary will be operated by the department of pharmacy in connection with the new Bradley Memorial hospital to be opened this fall at the University of Wisconsin. The dispensary will supply all needs of the hospital and infirmary and will cooperate with the medical staff of the clinic.

A health clinic will be opened in Oshkosh for the benefit of Winnebago county. It will be established in the office of the federal and state free employment bureau. The council recently decided to have the clinic and it was approved by the state industrial commission. Three members of the Winnebago County Medical association will act as general managers, having been appointed as an executive committee. They are Dr. Bertha V. Thompson, city health officer; Dr. Frank Brockway, formerly superintendent of the Wales tuberculosis sanatorium, and Dr. J. M. Conley, who served in the medical corps of the army. Dr. John F. Schneider, who saw active hospital service in France, will be the physician actively in charge. The expense to the state will be between $2,500 and $3,500 annually, part of which will be paid by the federal government, which is interested in eradicating social disease.

MARRIAGES

Dr. R. N. Nelson, Horicon, to Miss Blanche L. McDonald, Prescott, Arizona, September 17, 1919.

Dr. J. H. Prill, Chetek, to Miss Zoe Burnsted, Chetek, October 22, 1919.

Dr. J. J. Wilkinson, Hales Corners, to Miss Lillian Callahan, Darlington, October 22, 1919.

DEATHS

Dr. John Gygi died at his home in Big Falls, October 22, 1919, at the age of 42 years. Doctor Gygi was born in Switzerland where he spent the first twenty years of his life, and came to America in 1896 with his parents, locating in Columbus, Ohio. He graduated from the University of Ohio Medical School in 1906 and then practiced his profession in the west for three years, after which he located in Big Falls, practicing there until the time of his death. He was a member of the Waupaca County, Wisconsin State, and American Medical Associations.

Dr. W. H. Judd, one of the oldest practicing physicians in Janesville, died at Mercy Hospital, Milwaukee, from injuries received when struck by an automobile, at the age of 66 years. Doctor Judd graduated from the Chicago College of Medicine in 1883.

Dr. M. J. Rodermund, formerly of Milwaukee, but for the last eight years a practitioner, at Madison, died suddenly of heart failure October 11, while on board a train en route for Madison. Doctor Rodermund was born in 1854 and graduated from the Chicago College of Medicine and Surgery in 1887. While located at Appleton some years ago he gained considerable notoriety by his fanatical ideas relating to the contagion of smallpox.

Dr. R. C. Pynn of Delavan died in a Milwaukee hospital, October 14. Doctor Pynn was born in 1884 and graduated from the University of Illinois College of Medicine in 1907. He was a member of the Walworth County, Wisconsin State, and American Medical Associations.

Dr. Louis F. Klemm of Milwaukee died after an illness of three months, October 7, 1919, at the age of 49. He graduated from the Marquette University School of Medicine in 1900 and for fourteen years was one of the county physicians. He was a member of the Milwaukee County, Wisconsin State, and American Medical Associations.

Dr. Charles H. Hall, for many years a practicing physician of Madison, died October 30, 1919, at his home in Huron, South Dakota, at the age of 73. Doctor Hall was a graduate of the University of Wisconsin and the Hahneman Medical College of Chicago. He moved from Madison to Huron about two years ago. He was a member of the Dane County, Wisconsin State, and American Medical Associations.

Dr. A. C. Amundson died at his home in Cambridge, October 20, 1919. He had been in ill health for several years. He graduated from the New York University Medical College in 1882, and practiced his profession in Cambridge until a few years before his death. He was a former member of the Dane County, Wisconsin State, and American Medical Associations.

BOOK REVIEWS

General Surgery. Vol. II. Edited by Albert J. Ochsner, M. D., F. R. M. S., LL. D., F. A. C. S., the Practical Medicine Series, 1919. Price of this Vol. $2.50, price of series of 8 volumes $10.00. Year Book Publishers, 304 South Dearborn Street, Chicago, Illinois.

This volume is one of the series of eight issues at about monthly intervals.

Volume II, of the 1919 series, edited by Dr. A. J. Ochsner, represents a summary on different surgical subjects, with a review of the literature during the past year. It is a handy book, primarily intended for the busy general practitioner. It contains a limited number of illustrations, reproduced from original articles in the current literature.

The Wisconsin Medical Journal

Volume XVIII | Milwaukee, December, 1919 | Number 7

ORIGINAL ARTICLES

THE AMERICAN RED CROSS IN THE GREAT WAR.*

BY CLARENCE ALLEN BAER, M. D.,

MAJOR AMERICAN RED CROSS, ASSISTANT TO THE CHIEF SURGEON AMERICAN RED CROSS IN FRANCE,

MILWAUKEE.

President of the Medical Society of Wisconsin—

Ladies and Gentlemen:

The subject assigned me is the "American Red Cross in the Great War." Since this is a session of the State Medical Society, I will confine myself only to the Medical and Surgical aspects of Red Cross Work in France, as those are of more direct interest to an assemblage like this. The Canteen Work, the Refugee Work, the Rehabilitation Work, the Prisoners' Work Hospital Hut Work, the Casualty and Graves Registration Work, Home Communication Work, and such efforts are not to be considered at this present time. I will, however, try to give some idea of the Medical Work done by the American Red Cross along Civilian as well as along Military channels. The organization of the American Red Cross, medical and surgical service is no doubt new to you.

When the United States entered the War in April, 1917, the morale among the French population, both civilian and military was at a very low ebb. Our assistance was needed and needed badly. The French, as well as the British, admitted to the powers at Washington that things were going badly and that something must be done, and done without loss of time if Right were to triumph over Might and the War brought to a successful glorious close. Our own army was ordered mobilized and things were set going; but it would take many months until the American fighting force could be used as a powerful weapon. The United States government appealed to the American Red Cross for suggestions and aid. What could be done to bolster up and hold up the French morale? The American Red Cross conceived the idea of going over to France at once and studying the situation and mapping out some plan for immediate action.

The plan proposed and adopted considered the work as of two distinct sorts and scopes, but each included a Medical and Surgical Department. The Medical and Surgical Department of Military Affairs was to do work for French Soldiers and in French Military hospitals until needed for our own American troops. The Medical and Surgical Department of Civil affairs was to take care of the civilian medical needs, such as tuberculosis, children's diseases and refugee sick. It was thought that the morale of the French soldier would be strengthened and improved if every soldier knew that his wife, children, parents, sisters, brothers and sweethearts back home would be properly cared for while he was at the front. The American Red Cross in co-operation with the Rockefeller Foundation Against Tuberculosis set to work to combat the tuberculosis problem in France. Hospitals and Dispensaries were established and run and educational measures were taken throughout France. Simultaneously an Infant Welfare Campaign was inaugurated—Hospitals and Dispensaries for children were started and maintained throughout France. These measures were also established in handling sick refugees who were children or the very old of both sexes, and females of all ages. The Medical and Surgical Department of Military affairs busied itself with work in the French military hospitals—doctors, surgeons, supplies, apparatus, etc., etc., were sent to French military hospitals where needed. During the first months of our participation in the War, the Civil affairs Medical and Surgical Department was more important in work and scope than that of Military affairs, but towards the autumn of 1917, when our own troops began to arrive in France, the Medical and Surgical Department of Military affairs became active in behalf of American sol-

*Read before the State Medical Society of Wisconsin, Milwaukee, Oct. 1st, 1919.

diers, and thus became more and more important, until the main Medical work was done by that branch, and the Medical and Surgical Department of civil affairs became of lesser and lesser importance. I will say nothing further about the efforts of the Medical and Surgical Department of Civil affairs, but will confine myself to the work done by the Medical and Surgical Department of military affairs.

1. *Hospitals*— (a) *American Red Cross Military Hospitals* were established in Paris and that part of France, north and northeast of Paris. There were no United States Army Hospitals in these areas. These hospitals were for American soldiers or officers as the case might be.

(b) *American Red Cross—French Military Hospitals.*

Certain French Military hospitals admitted American wounded when no American hospital was near. Besides material aid given to such hospitals American Doctors and American Nurses who spoke French, were assigned to these hospitals wherever Americans were admitted. No branch of work could bring greater satisfaction or more personal joy than that of an American Nurse who spoke French and was assigned to care for American boys in French hospitals. Bigger things were done during the war, more spectacular jobs were tackled, but no work could give the joy to both wounded men and nurses than this small service.

(c) *American Red Cross Hospitals for Auxiliary Organizations*—The American Red Cross took medical care of the various auxiliary organizations such as the Young Men's Christian Association, the Young Women's Christian Association, the Knights of Columbus, the Salvation Army, the United States Treasury Department (a large force to handle the A. E. F. pay rolls), the Peace Conference (it might interest you to know that there were 400 members in our delegation), and the American Embassy. This meant about 30,000 people. Several hospitals had to be opened throughout France for this purpose and many Doctors and Nurses had to be assigned to this duty.

2. *Infirmaries.*

(a) *Infirmaries at Lines of Communication*—Many infirmaries were established, equipped, maintained, and personelled along the Lines of Communication where troop trains passed frequently, or where railroad lines crossed. The duties here were to attend to accident cases, to care for men with minor ills in transit and yet enable them to continue with their organizations, and to take the very sick off the trains and hold and care for them until they could be sent to the nearest base hospital, to keep men discharged from hospital until arrival of train on which they were to be sent on further.

(b) *Infirmaries at Embarkation Ports*—These were established on the docks to care for the sick and wounded en route to the United States. Trains and ambulances brought these boys to the dock infirmaries from where they were loaded onto hospital tugs and then transferred to hospital ships or transports. Thousands of men were handled through these dock infirmaries.

3. *Dispensaries*—These were established at various centers, principally at the disembarkation ports and naval bases and Paris. Although called dispensaries they were in reality venereal and prophylactic stations.

4. *Convalescent Homes*—Many convalescent homes were opened in the Southern and Western portions of France. These were established in old chateaux where spacious grounds surrounded the buildings. These homes were for privates, officers and nurses respectively.

5. *Polish and Tscheko-Slovac Hospitalization**

About 90 per cent of the Polish army and 80 per cent of the Tscheko-Slovac Army were American citizens. Our government permitted men of military age of Polish or Tschec stock, to join the Polish or the Tscheko-Slovac armies instead of becoming members of the A. E. F. The wisdom of this it is not our sphere to discuss. These armies therefore were not A. E. F. although American citizens, and could claim no medical or surgical care from the A. E. F.—They were also not French although attached to the French army for fighting purposes, and therefore could claim no medical or surgical care from the French. The American Red Cross considered it its duty to hospitalize these two allied armies in France. Large hospital centers with numerous smaller feeding hospitals were established and equipped and American Nurses and Doctors supplied.

6. *Hospital Trains and Hospital Barges* were equipped and run for the evacuation of wounded. There are advantages and disadvantages in both methods of transporting wounded. Whenever possible abdominal wounds were evacuated on barges.

These barges could, of course, be used only where the advanced hospital and base hospital were both on water ways. From the Chateau Thierry section and all along the Marne and Aisne rivers, wounded could be evacuated by barges directly to Paris. The barges were the special care of the Smith College Units, who did valiant and splendid service. *Hospital trains* need no comment.

7. *Evacuation Camps.* Several of these camps were established in conjunction with the French. These camps were placed along the sides of spur railroads within ambulance distances of large hospitals. Hospital trains were run from the evacuation hospitals directly to those camps—here the wounded were removed and kept until removed by our ambulances. Wounded were kept in these camps from one-half hour to three hours depending on ambulance transportation.

8. *Supplies to United States Hospitals*—Supplies and equipments of all kinds and all natures were furnished to United States Hospitals upon written request O. K'd by the Surgeon in charge of the section. This form of request was necessary to prevent reduplication of materials from army sources. Every conceivable sort of hospital supply or equipment could be furnished. Large hospitals of many hundreds of beds were equipped and running within a few days. Instances of the speed of opening hospitals are numerous—one of the American Red Cross hospitals was only a barren race track and field on a certain day and two weeks later was taking care of 3,000 patients in a fully equipped hospital with everything complete. This was possible only because of the vast stores of the American Red Cross and the efficient Construction Department. (It might be of interest to you to know that the hospital mentioned was ready in so short a time because of the efficient management and work of Dr. Geo. D. Whiteside of Stevens Point, Wisconsin). All gauzes and bandages used, all splints used, all nitrous-oxide apparatus, all blood transfusion apparatus used by the A. E. F. were furnished by the American Red Cross.

9. *Occupied Territory*—

After the armistice and before the Army of Occupation was permitted to enter Germany, the American Red Cross received permission from the then German Government to send doctors and nurses into German territory in advance of the Army of Occupation in order to care for the wounded prisoners of the American and Allied armies. This was a big task. In Berlin hospitals alone there were 300,000 wounded Russian prisoners to be cared for. The nurses and doctors were sent into Germany in large motor trucks taking all their supplies along with them.

10. *American Red Cross Research Society and War Medicine.*

The most important thing the American Red Cross did for the American doctors was the establishing of the American Red Cross Research Society. This society met once a month at Paris for the consideration and discussion of the new medical and surgical problems that arose from time to time during the war. Medical men of authority and experience in the British and French armies presented papers and joined discussions with the Americans. All doctors in the A. E. F. were invited and representatives were sent to the meetings from various divisions and base hospitals. Such subjects as Gas Gangrene, Shock, War Neuroses, Trench Foot, Gas Treatment, Trench Fever, Primary Suture of Wounds, Venereal Diseases, etc., etc., were discussed. These monthly transactions were published by the American Red Cross every month under the title of "War Medicine." A collection of these pamphlets would give one a volume of the latest diseases, ideas of etiology and treatment and prevention, surgical advances, etc., etc., developed by the Great War. These monthly issues of "War Medicine" were sent to every doctor in the A. E. F. if he so desired. Other volumes on war medicine and surgery were published by the American Red Cross Research Society, such as "War Urology" by Col. Hugh Young, "War Fractures and Dislocations" by Col. Jos. Blake, "War Neuroses" by Col. Thos. Salmon, "Trench Fever" by Col. Richard Strong, "Atlas of Gas Poisoning" by British and American military authorities, and others. The Research work done on Trench Fever was financed and equipped by the American Red Cross and the large monograph on that subject is a monument to the American Red Cross foresight. Experimental work along other lines was also financed by the American Red Cross Research Society.

From this hurried outline of the American Red Cross Medical and Surgical activities in France, I hope I shall have conveyed to you some idea of the many things that confronted the American Red Cross doctors. The scope of the work was enor-

mous. I hope I have presented to you some sort of picture of the American Red Cross, Medical and Surgical service, although I have given you but a very sketchy presentation of the work done. Details would make this paper much too long for the time allotted me. I thank you.

EYE SURGERY IN THE WAR*.

BY G. I. HOGUE, M. D., F. A. C. S.,

LIEUT. COLONEL U. S. ARMY,

MILWAUKEE.

In modern trench warfare and with artillery as the principal agent of destruction, injuries of the head are of frequent occurrence, despite the compulsory use of the steel helmet, and the eyes are indirectly affected in 50 per cent of these injuries according to Col. Lister, Chief of British Eye Service.

Directly the eyes are injured to the extent of approximately 5 per cent of all injuries.

The eyes are exposed necessarily, but in the next war we may wear protectors like the warriors of old, and allow only the smallest aperture for the soldier to visualise the enemy. In Paris I examined eye protectors made of steel wire netting that did not interfere to any great extent with the vision. This idea was, however, not carried into effect, so it cannot be stated definitely what percentage of injuries this safeguard would eliminate.

Eye injuries in the war were of the same nature as in civilian practice, and differed only in severity, and in frequency of infection. The treatment and operations in eye injuries were based on the same principles as in civil practice. However, many interesting and instructive lessons were learned, which will guide us in our future work.

We had to deal with eye injuries inflicted by the rifle, shrapnel, high explosive shells, hand grenades and all the foreign bodies thrown up by explosive action, e. g. dirt, stone, gravel, sand, various metals such as tin, iron, steel, brass, nickel, copper, lead and aluminum, also glass, wood, etc. Most of these substances were septic because they frequently came from a ground that had been fertilized for many centuries.

Lacrimatory gases gave but transient disturbance of vision. Asphyxiating gases were used on a large scale, but fortunately not in the strength to do any permanent damage to the eyes. It is anticipated that in future wars a more destructive gas will be employed.

Liquid fire was abandoned early in the war, as it was found to be too difficult to handle safely and hence the list of destructive burns of the eyes was practically nil.

Gas masks were issued to every man in the A. E. F. and were most efficient, but 50 per cent of shells contained gas and also, due to carelessness in isolated cases or to a sudden attack by the enemy, we were confronted by a great many cases of burns of the conjunctiva, especially by mustard gas (dichlor-ethyl-sulphid); in 80 per cent of the cases. I had occasion to see a great many cases during my service as consultant in the Toul area, but only in two cases was the cornea involved, and both of these made uneventful recoveries. Our line of treatment for gas conjunctivitis was as follows: Sodium bicarbonate 1 per cent irrigations every four hours, also ice compressing and the instillation of liquid petrolatum. The eyes were allowed to remain open and no bandage was used; only shading the eyes by means of eye shades or colored glasses. Atropin 1 per cent, argyrol 25 per cent and hot compressing was used where the cornea was involved.

At the front, all the injured received a prophylactic injection of ant-tetanic serum, and this was noted on the history card and also by the sign "T" in iodine on the forehead. When there was any doubt at the Mobile or Evacuation Hospital that the patient had not received this injection, he was promptly given it. This measure, I believe, accounts for the remarkably low percentage of cases of sympathetic ophthalmia, plus the prompt first aid by means of a first aid compress bandage and the prompt transference to the hospitals in the rear, where expert treatment by eye specialists could be given. Of course, the earlier the treatment was started the better the chances of saving the eye and therefore, eye surgeons were stationed as close to the front as practicable to the safety of the patients.

The Surgeon General's program for the care of patients in the A. E. F. was begun on this side where an efficient head surgical staff was appointed that controlled the selection and training of the specialists in their respective specialties. At Fort Oglethorpe, Georgia, a school for the training and

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*Read before the State Medical Society of Wisconsin, Milwaukee, Oct. 1st, 1919.

classification of Eye, Ear, Nose and Throat specialists was inaugurated, and this idea was to have been continued in France but was cut short by the signing of the Armistice. In the A. E. F. the Senior Consultant and assistants were men best fitted for the work by virtue of their reputation, not only in civil practice but on account of their experience in allied armies.

Nurses were selected for this particular branch as to their previous experience and at Evacuation Hospital No. 1, I was assigned a former nurse of Colonel Elliott, one of the most prominent oculists in Europe.

Instruments and magnets were not lacking. The 1917 model, and also an auxiliary case of instruments were furnished to each Base, Evacuation and Mobile hospital and also in most hospitals two magnets, one a giant and the other a hand magnet. In the Mobile Hospital the magnet was operated by the power of the X-ray dynamo and was of great service on account of being taken on the X-ray truck and could be employed close to the front. An X-ray examination was made in every suspicious case of injury to the eye, for it is a well known fact that frequently a small foreign body will penetrate the eye and give little or no sensation or inconvenience to the patient. In my experience 75 per cent of the foreign bodies in the eye were non-magnetic.

Many eyes were saved by the prompt treatment and by the good judgment on the part of the Ophthalmic Surgeon. The policy in the A. E. F. was to give every eye a chance to remain in the head, and was removed only when hopelessly damaged and beyond repair, or after careful observation, a probability that involvement of the opposite eye was imminent. This principal was carried out even if the wound of entrance was in the dreaded ciliary region, and it was surprising how many of these cases did well when no infection occurred in the wound.

Eye operations were performed at Evacuation Hospital No. 1, in a separate operating room, but sometimes it was necessary to operate in the general operating room when the patient needed the services of the general surgeon as well, and one anethesia would suffice for both operations, and in this way the patient was not moved unnecessarily. Usually at the conclusion of an operation, the mask could be removed from the patient, and the patient being well under the anesthesia, the Ophthalmic Surgeon was able to work uninterruptedly.

Plastic work to correct defects of the bone, skin and mucous membrane in the vicinity of the eye was performed at Base Hospitals. Most of this work was done at Base Hospital 115, at Vichy, where every facility for this class of work was obtainable. New lids and eye sockets for the reception of artificial eyes were successfully made by pedunculated flaps from surrounding skin and also by means of skin grafts.

Enucleation was performed whenever the eye was irretrievably lost, and this was the operation of choice, except in cases of panopthalmitis when evisceration was performed in order to prevent septic meningitis or septic sinus thrombosis. Glass spheres were furnished in three sizes, 18, 20, 22 mm. and were implanted in Tenon's capsule immediately after the enucleation. Some reaction followed, which lasted from four to five days. Four sutures were passed horizontally in Tenon's capsule and then the four rectic muscles were sutured, the inferior to the superior and the external to the internal, and finally four conjunctival sutures passed in the horizontal. A few of the glass spheres were expelled, but this was due usually to the fact that too small a sphere was employed. We had better results by this method than by the use of fat or paraffin, because there was no absorption. The advantage of using a glass sphere is that the upper lid maintains its normal contour, and the artificial eye is able to move nearly as well as the normal eye would move.

Debridement, so generally performed in general operations by the general surgeon, is positively contra-indicated in eye surgery. Our aim was to save every bit of tissue in and around the eyes. Early and accurate primary union was always attempted in order to avoid deformity and a secondary plastic operation. Great care was exercised in injuries of the lower lid, especially at the inner angle to avoid any interruption in the tear passage.

Conjunctival flaps were of the greatest value in preventing infection, stimulating healing and keeping the contents of the eyeball intact. Prior to the use of the conjunctival flap, careful asepsis, complete removal of all prolapsed tissue and corneal lips approximated was done. Artificial eyes were inserted at the earliest possible date and in

June, 1919, over 1,500 artificial eyes had been issued to our soldiers.

The method of extraction of foreign bodies varied somewhat with the individual operator. Some preferred the anterior route to the posterior route. Some preferred the giant magnet to the hand magnet, and vice versa. The path of least resistance should be our guide. Seventy-five per cent approximately of the foreign bodies were in the vitreous and the operation of choice was the posterior route, and a sclerotomy was performed prior to the extraction. The short conical tip on magnet served us the best. Where the foreign body was small, the best procedure was the giant magnet used interruptedly until the foreign body entered the posterior or anterior chamber, when the operation was completed by the use of the hand magnet. Non-magnetic foreign bodies were difficult to remove, as it was necessary to use forceps and where the foreign body was deep it was often a better policy to allow the foreign body to remain and follow an expectant course, than by indiscriminate probing and manipulation within the eye. When the foreign body was copper it was imperative to remove it at once on account of the dangerous chemical reaction. Foreign bodies within the eye were discovered sometimes by means of the ophthalmoscope, when there was no hemorrhage in the eye, and also by means of the magnet whereby the patient would experience a sensation of pulling or slight pain.

Orbital injuries were treated conservatively when slight, but when any severe damage was done, an incision and removal of bone was done. Small foreign bodies in the orbit were allowed to remain if inaccessible. Large foreign bodies were removed, and care was exercised to avoid any damage to the muscles or nerve supply of the eye. If any cellulitis developed, prompt drainage was instituted. If lagophthalmus developed, due to extreme exophthalmos or facial palsy, the lids were sutured together in order to cover the exposed cornea.

In every cranial or brain injury frequent consultation with the general surgeon was invariably the rule. The fundus was carefully examined, pupillary action noted and the visual fields frequently taken.

Papilloedema of the optic nerve, or choked disc, frequently followed a depressed fracture of the skull. Increased intracranial pressure results, with subsequent atrophy of the optic nerve and blindness unless a decompression operation is performed. The intracranial pressure is according to Col. Lister due to (1) swelling of the brain due to concussion, (2) swelling of the brain due to inflammation, (3) hemorrhage on the surface of the cortex, (4) abscess, (5) possibly serous exudation from the meninges.

Only three cases of gas gangrene of cornea were reported, and all of these in the service of Captain J. A. Pringle of the Royal Army Medical Corps.

Sympathetic ophthalmia or involvement of the opposite and uninjured eye has been the bug-bear of the eye surgeon and still causes us a great deal of anxiety, although it has lost its sting to a certain extent by our experience in France. Morax, whom I consider the greatest eye surgeon in France, informed me that he had seen only 38 cases among the many thousands of eye injuries at the Lariboisiere Hospital in Paris during the entire four and one-half years of the war.

In the American Expeditionary Forces, 98 men were totally blinded. No estimate is available at the present time of the number of men that lost the sight of one eye, but some idea may be gained by the fact that 1,500 artificial eyes were issued at the Base Optical Unit in Paris up to the first day of June, 1919.

The re-adaptation of our totally blind began with the healing of the wound at the Base Hospital. The soldier was encouraged to take care of his own person, and to find his way in and around the ward. It was necessary at first to give aid, but later with confidence increasing, the man was able to find his way and to care for himself. Just as soon as possible the blind man was sent to the school at Savaney in France and instruction in reading and writing and participation in various games and diversions was begun. At this school competent teachers were employed and good cheer and words of comfort were spread by the presence of a blind teacher who could demonstrate the results possible with re-education.

Unless the man bore such physical deformities that would injure the sensibilities of his relatives, he was promptly returned to the States under the care and guidance of an efficient teacher of the blind. The thought of returning home, as well as the bracing sea air, had a most beneficial effect upon the man. Immediately upon his arrival in this country he was taken to the Army and Navy School for the Blind at Baltimore, Md.

General Hospital No. 7, called "Evergreen", is

situated in the suburbs of Baltimore on a hundred acre estate which has been loaned by Mrs. T. Harrison Garrett to the United States Government, and serves as a hospital as well as a school for the soldiers, sailors, marines and munition workers who have lost their sight as a result of the world war. The six new buildings are surrounded by beautiful gardens, and constitute with its club rooms, gymnasium and swimming pool, which has cost the Government $250,000, an ideal home and club for our heroes. The best of equipment has been installed and the best teachers in the United States are employed in this institution. The school embodies all of the valuable experiences of our civilian blind schools, and also the foreign blind schools, and offers complete practical training in professional, industrial and agricultural courses; in blind-shop work and also home-work. Every man is studied as to his individual ability, and also with regard to the community in which he chooses to live. The aim is to teach every one to read, even if illiterate, the Braille embossed type, and also to print the raised type on a machine for his own use. The man is also encouraged to use the typewriter, either the ordinary typewriter or a special one, most of the men prefer the former. At St. Dunstan's every man that becomes proficient in typewriting is given a typewriter as a present. The individual is allowed to select his work and after close observation, is given sound advice if the line of work is not adapted to him. Trial employment is also carried out, and if the man makes a failure, he is then re-educated in some other line of work. Certain merchants and manufacturers volunteered to teach our blind in certain lines of business and trades.

The American Red Cross Society deserves a great deal of credit for the splendid work which it has done and is doing for our blinded soldiers and sailors. In addition to this, the Red Cross Society is taking care of and paying all the expenses of the relatives who come to the school to learn how to assist in the future work of their relatives. The Red Cross has also trained social workers to take their places in the 14 districts of the United States, where the progress is noted of the returned blind soldiers, and great assistance in a social and financial way is offered. Congress has authorized the "Federal Board for Vocational Education" to take charge of the disabled man as soon as he has been discharged from the hospital, and to deal with the training and placing him in suitable civilian employment.

The usual occupations for the blind are basket weaving and brush making, but it is surprising the manifold possibilities for the employment of blind in industries. Almost every day some new work is found, which the blind can do as well as the seeing person. In my opinion, massage offers a wonderful field for the blinded soldier who has had some education and has some personality. The study of anatomy, physiology and pathology, requires some time, about 12 to 18 months, but it is surprising how adept the man may become and to what good advantage he can use his knowledge and his strength. It is undoubtedly the best paying occupation for the blind. There are many lines of work open, such as piano tuning, book binding, cobbling, cooperage, stenography, telephone switch board, wireless telegraphy, poultry raising and farming. Farming undoubtedly is the best vocation for the man who has had experience in this line of work, as he does not need a guide, and can make a success in dairy farming and market gardening.

Where the soldier is for physical or mental disabilities unable to attend the school, home instruction and work is instituted. The man's social welfare is not overlooked. If he has any inclination towards music, this is encouraged. He is encouraged to take part in amateur theatricals and to dance, of course the partner leads.

It is highly appreciated that the man should be returned to his home at the earliest possible day, usually after six months' course in school and, upon his return raw material is obtained and shipped at the lowest price, and also the finished product is disposed of in the highest market. Tools and materials are also purchased at the lowest price. Work-shops in large cities should be maintained by the State, and the soldier transported each day to and from the shop. The State owes it to these men that raw material be furnished at the lowest price, and that the finished product be purchased and disposed of at the prevailing price if the article is up to the specification.

The American, British, French and Belgian Permanent Blind Relief Fund for soldiers and sailors, has made a contribution of $100,000 towards this splendid work. We owe a lasting debt to the blinded soldiers, and the directors of blind schools all over the world are doing their utmost

to make the path easy for their pupils. They are encouraging their pupils during their training, and demonstrating to them the great advantages in the sense of touch and hearing and even sense of smell. The motto, "There are no blind men here, but normal men who cannot see", I saw at the miracle school, St. Dunstan's, London. In Portugal the motto in a workshop is, "Never pity the blind as they do not want it." And in France in several schools I was convinced that the motto, "To pity is not to console," is true. Our aim should be to encourage and make the blind independent and instill the idea of pride in doing their work as well as in seeing. Above all, teach him to smile! Ninety-nine per cent of the blind are optimists. The blind man needs affection and love as well as the seeing and, therefore, we should encourage him to marry. Our public libraries should see to it that books for the blind are on the shelves in sufficient variety to appease their appetite in reading. Recall to them the success of blind lawyers, physicians and even a present United States Senator, and tell them the story of the wonderful Helen Keller. We must dispel all gloom and moral depressions which at first invaded the mind and heart of a blind soldier by instilling faith in himself, and constantly enlarge his mental, physical and moral sphere.

Our Heroes who have lost their sight in defense of their country are taken care of financially by the War Risk Insurance, given a splendid education at the expense of the Government and the best care possible, but we must do more by keeping up our interest constantly in their welfare, and by educating the public to help the blind without the blind knowing it. The greatest trial of a blind man is his sense of dependance on others. He is not an object of charity and does not want to be, for he is less handicapped than you suppose. All that he asks of us is a chance to demonstrate what he can do, and to be treated as a normal man that cannot see, so may he experience the joy of living.

Carelessness with the hands and teeth causes more deaths in America every year than carelessness with motor vehicles, says the United States Public Health Service. Keep the hands clean, free from germs, away from the mouth and visit the dentist regularly.

SURGICAL EFFICIENCY.*

BY V. A. MASON, M. D.,

MARSHFIELD.

During the past centuries surgery has made wondrous strides. It has passed from the hands of the barbers and bone-setters to ones more skilled and trained. It has changed from a mass of chaotic ideas and myths to almost an exact science. It is no longer practiced by the few but is now being done by a multitude of surgeons who operate in the humblest country homes, as well as in the great metropolitan hospitals. At first its progress was very slow, but during the last fifty years it has advanced by leaps and bounds. Every region of the body has been invaded and almost every disease has been attempted to be cured by this art.

The great stimulus it has had from this marvelous progress, the modern methods of teaching surgery in our great schools, the better knowledge of pathology and diagnosis, combined with the larger fees derived therefrom, have been the chief factors in producing our great number of surgeons. While this has been of distinct advantage on the whole, it has nevertheless produced a condition which, sooner or later, must be remedied if we would keep surgery on that plane of an exact science where our great masters have tried so hard to place it.

This great increase in the number of surgeons, together with the competition that must necessarily follow, has tended, we are sorry to say, to lessen in many respects the efficiency of modern surgery. It is because of this that we have taken the liberty of writing this paper entitled "Surgical Efficiency." We believe that the future advance of surgery in Wisconsin for the next few years to come must be along the lines of more efficient and better work.

In order to accomplish this, we must first study methods for the improvement of our surgeons of today and those in training who will take their places later. This improvement of the surgeons must come mainly through their own efforts as well as through the various surgical societies. There is no surgeon who can expect to become efficient who does not strictly limit himself to surgical work. He has no right to practice internal medicine or obstetrics as a side line, for this sim-

*Read before the Wisconsin Surgical Association, Milwaukee, May 9th, 1918.

ply makes of him a general practitioner and lessens his time for study so that he may become efficient. It likewise encourages the general practitioners to do their own operative work, and here again we not only get inefficient surgery, but the public as a whole do not get the kind of work that they are entitled to obtain.

The sooner the American College of Surgeons and the various State Surgical Associations separate the surgeons from those practicing other branches of medicine, the sooner we will have accomplished the first step towards making surgeons capable of doing efficient work. Further, through proper and legitimate propaganda, the public must be taught that for surgical conditions they should consult the surgeon, and for internal medicine they should consult the internist.

Relative to the surgeon of the future, we would say that it is not sufficient for him to be a graduate of a first-class college and to have spent an internship in some large hospital. While he should have both of these, still to make an efficient surgeon out of him he should be, as it were, apprenticed out for a long period of years to some excellent surgeon. It is here that his judgment will become matured and he will gain from his chief all those things necessary for the making of an efficient surgeon. When we develop our surgeons in this manner, then we will produce a class of men who do not need to do unnecessary operations or split fees, secretly or openly, in order to obtain their surgical patients.

The hospital forms the next link in raising the efficiency of surgery. In order to do proper surgical work, it is imperative that we have first-class hospitals to work in, and here again we will say from our own experience, that it is necessary to constantly watch the hospitals, or, unconsciously, their efficiency gradually lessens. It is not only necessary that our hospitals have proper equipment and a sufficient number of well trained nurses, but they should also have a well organized staff with a chief for each department. This chief is responsible for everything that goes on in his department, no matter who performs the services, and if he finds work being done that ought not to be done, or deaths occurring from poor work, it is his duty to consult with the heads of the hospital, and for the benefit of the public as well as for the reputation of the hospital itself, to inform those responsible that their work must change or their hospital privileges must be denied them. This applies to all classes of hospitals alike.

They should be frequently inspected by representatives of the American College of Surgeons, and classified according to the efficiency of the work that they are doing. This classification should be made public property so that the laity might know the standard of the hospitals before they enter. This would in a short time cause the disappearance of many of those small so-called hospitals where the crudest kind of surgery is being practiced. It would likewise cause some of our incompetent surgeons to cease practicing surgery, as the better hospitals, for the benefit of their records, would refuse to allow them to operate in their institutions.

Again, the efficiency of surgery depends to a great degree upon good diagnoses. To make good diagnoses, our patients must be thoroughly studied from every angle possible. No examinations, however complicated, should be omitted if they will throw any light upon our cases. Our records should be complete in every detail and at the time of operation, unless our patient be one of those bad-risk cases, every pathological condition that can be remedied by surgery should be corrected. It is in diagnosing our cases that we derive the greatest help from the group practice of medicine. Each member of the group adds his findings to the clinical picture and when they are through the surgeon has a better idea of the exact condition of his patient and he is in a position to intelligently apply his surgery to the best advantage.

How many times do surgeons make a snap diagnosis, skilfully operate upon a patient, but fail to get a cure? How many times do serious errors in prognosis occur because the necessary pathological work was not done? How many times have we seen patients operated upon for one thing, while the most serious condition was left undisturbed because it was unnoticed? How many times have our surgical diagnoses been wrong? All these show lack of efficiency. As a rule, a complete diagnosis cannot be made by the surgeon alone, for it requires the combined judgments of the internist, pathologist, roentgenologist and the neurologist, as well as the surgeon himself. When our patients receive a complete diagnosis, after being thoroughly examined by men well qualified in their respective lines of medicine, then we can expect efficient surgical work. This, of necessity, demands proper compensation and just as long as there are sur-

geons who continue to work for an inadequate compensation in order to get business, just so long we will continue to have inefficient surgical work done.

Further, that our records may show the efficiency of our surgical work, it becomes necessary for us to follow our cases long after they leave our care. Many of our cases that we considered to be brilliant results, when followed, later turn out to be absolute failures so far as our work is concerned. All of you surgeons who follow up your results will find great surprises from time to time. We know of no better way of increasing your surgical knowledge, or making you more efficient surgeons, than to diligently practice the follow-up system. This is best done by drilling into your patients, during their stay in the hospital, the necessity of their returning for re-examination at stated intervals. This not only gives you a better opportunity of making your follow-up records more nearly correct, but impresses your patients with the idea that you have done everything in your power to make them well and that you intend to see that they get well. If they cannot return, we, at our clinic, send them a self-addressed envelope containing a letter with a number of questions to be answered. It is gratifying to see how anxious the majority of patients are to comply with your request.

Now, gentlemen, in closing this paper on Surgical Efficiency, we would emphasize the following points:

1. That surgeons should be classed as such by the American College of Surgeons, and practice nothing else.

2. That young men wishing to become surgeons should apprentice themselves to a competent surgeon for a number of years.

3. That hospitals should be classified and the public should be educated to know their exact standing.

4. That we must have a complete diagnosis of each case which is best made by a group of well trained men.

5. That the cut-rate surgeons and the fee-splitting practice must be stopped.

6. That our aim should be to obtain complete cures in each patient which often requires other remedial means of treatment besides the surgical operation.

7. That the surgeon has not done his duty unless he follows up his patients and keeps track of the end results.

SKIN-GRAFTING.*

BY JOHN F. PEMBER, M. D., T. W. NUZUM, M. D., AND F. R. NUZUM, M. D.,

JANESVILLE.

It has fallen to our lot in past years to have under our care patients who have suffered from burns so extensive that large areas have to be covered with grafts. The care and management of these cases provided the thought for this paper.

By grafting, the period of healing is reduced from months or years to weeks or days, and in addition, grafting saves many an extremity without which amputation would be necessary as a result of cicatrical contraction. It also relieves much suffering, and no doubt occasionally prevents death from anyloid degeneration of the kidneys. The three important methods of grafting are those suggested by Reverdin, Wolf and Thiersach, respectively.

Reverdin's technique consists in lifting a small portion of skin with a needle, removing it with curved scissors, and placing this island with many like it on the denuded area. These grafts at first apparently disappear owing to disintegration of the epidermis; but, later appear as bluish-white spots from which the epithelial growth proceeds in all directions.

Wolf's method is accomplished by excising a piece of skin one-sixth larger than the area to be filled, removing all the fat from its under surface, and placing it in the defect from which all the scar tissue has been removed, and in which the graft is held by pressure of the bandage. *Hair* thus transplanted usually falls out and regenerates irregularly. In this connection it is interesting to note that when skin is transplanted from a negro to a white, the pigment gradually disappears and vice versa. Skin from a white man grafted on a negro gradually becomes pigmented.[1] Healing of a Wolf-graft occurs within three or five weeks.

If the graft has a larger area than thirty-six centimeters, necrosis is almost certain to occur, and, therefore, despite certain advantages, the use

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*Read before the Tri-State District Medical Association.

of this method is restricted and is being replaced by pedunculated flaps which insure assured results.

The third method, the Thiersch-graft, is the one we have most frequently used. It has four points of marked value, viz; greater resistance, less shrinkage, and better cosmetic effect, and lessened period of healing. Such a graft will grow on any fresh surface, except upon a tendon denuded of its sheath, or a bone denuded of its periosteum. It goes without saying that the surface to be grafted must not only be free from necrotic tissue, but must be covered by a healthy, firm granulation tissue, and one from which a stained smear under the microscope shows a bacterial count of six or less organisms to the field. There are many ways of getting the area to be grafted into this condition. We most frequently employ a boric-alcohol dressing for two or three days; and on the evening before applying the grafts the area is painted with a solution of three and five-tenths per cent iodine in alcohol. Frequent saturation of the dressings on the raw area with Dakin's solution (neutral solution of chlorinated soda) or the application of a four per cent solution of dichloramine to the surface to be grafted, soon give a practically sterile field. The appearance of the field should not be used as the only guide as to when grafting may be done. A count of the number of bacteria in a field of a smear from it would often prevent too early grafting and a consequent loss of grafted skin from infection.

Long experience taught us that grafts from the patient took best, and that skins from some relative or friend "took" better than others. Now, by use of the Moss method of blood grouping, we are able to determine beforehand the individual whose skin will "take" when grafted to the patient's wound, and those whose grafts would be lost. Consequently we test the agglutination of the patient's cells and serum, and use as a doner, only an individual who falls into the same blood group as the patient. As a matter of safety we use a doner whose Wasserman is negative.

The patient himself is the best doner; and in most instances we have been able to obtain from him enough grafts to cover his wounds. The epithelium readily recovers the areas denuded by the graft-cutting razor, and within six weeks the identical area is again capable of yielding excellent grafts. It is possible to use the same area repeatedly if necessary. Under proper conditions we have found that ninety per cent of a homo-graft will take, where as an iso-graft, viz., such as grafts taken from a doner, have only averaged from sixty to eighty per cent of "takes" even though the doner and patient fall in the same Moss group.

The preparation of the surface from which the grafts are to be taken depends much on the preference of the operator. The method we have used is extremely simple, consisting in cleansing with benzine followed by rinsing with a four per cent solution boric acid, and the application of a sterile dressing until such time as the grafts are cut. The technique of cutting Thiersch-grafts is so well known that comment is scarcely necessary. Sharp razors are imperative. The surface from which the graft is to be taken must be held taut. As in other surgical procedures, practice and skill are necessary in obtaining thin grafts of the desired width and length. One assistant should devote his entire attention to teasing out the edges of the graft, and adjusting them after they have been placed upon the wound. The grafted surface should be absolutely bloodless and dry, and all air bubbles pressed out from beneath the grafts. If the grafts are large an occasional "button-hole" here and there will serve as an outlet for the serum which may form beneath them, and will keep the graft from being "floated up" from the wound and lost.

The dressing of the grafted area and its after care are of much importance. At the present time the dry or open dressing is very popular. A wire basket is fitted over the wound, and strapped on with adhesive to prevent removal, the wound being left exposed to the air.

We have, however, obtained somewhat better results by the use of strips of gutta-percha tissue moistened with normal salt solution and placed in a criss-cross manner over the wound; dry gauze is placed over this and the dressing left undisturbed for several days. This dressing is reapplied at intervals until healing has occurred. Instead of the gutta percha tissue, cloth net saturated with paraffine may be applied, and if this sticks at removal the application of petrolatum for a few hours will permit removal without displacement of grafts.

Among the instances in which the Thiersch-graft has served us well are two which we would like to mention. In the first there was a complete avulsion of the scalp and of the forehead down to the eye brows and including the root of the nose. Thiersch grafts resulted in a short period of con-

valescence and the cosmetic effect is good. The woman wears a wig and would scarcely attract your attention. The second patient, in addition to many other severe burns, lost all the skin of the right arm and fore-arm. Thiersch-grafts again resulted in comparatively short convalescence. There are no contractures and the movements of the entire arm and hand are unimpaired. The cosmetic effect is also good.

[1]Greenfield, D. G., But. Med. Jour., 1917, April 14.

DISCUSSION.

Dr. Emil G. Beck of Chicago addressed the convention: We have employed a method for the last four years which in a great measure obviates the necessity of skin grafting. Large surfaces of granulating surfaces may be covered with skin by promoting the growth of the skin from the edges. The skin does not grow over the granulating surface because the granulations grow higher than the skin. In other words they overlap the skin edges and the skin cannot grow upwards. If you can keep a level surface between the edges of the skin and the granulating surface, the skin will grow from the cut border and cover a surface as large as ten inches square without any skin grafts.

We have employed the following method: The edges of the skin are cleaned of granulations and then a strip of adhesive plaster, so placed as to cover both the granulating surface as well as the skin. In 24 hours the strips are removed and you will notice a bluish border around the skin wound. The next 24 hours the wound is just covered by gauze and again in 24 hours the strips of adhesive plaster are applied. In this way you may watch the gradual progress of the skin grow over the entire surface. I have employed this method in many cases.

I have not employed skin grafting very much except on very large surfaces where I wanted to hasten it. Here I want to mention a few points in technique. I agree with the last speaker that you should not leave spaces between the different grafts. In fact, I usually use one graft right in the center of the wound. The dressing that we employ is vaseline. We have our surface perfectly dry from blood and then the skin graft is placed and dressed with gauze and after it adheres, especially around the edges, it should not overlap. Then vaseline is poured over it and dressing put on.

Member: I did not understand if this method was applicable to burns.

Dr. Beck: It can be applied to burns, to fresh denuded surfaces after operation. For instance, after amputation of the breast, when you have not enough skin to cover the denuded surface, it will work on that and also on old muscles of the leg. However, here we have to take in consideration the operation for the veins should be performed which should be necessary to cure permanently. The experiments which we have carried out show this. This adhesive plaster acts as sort of a leader for those minute cells to fix themselves one against the other and grow something like a plant will grow along a wire. A bluish border is seen in 24 hours; then a little red border outside of the bluish one. This method has been used for four years. It is not original with me. It coincides with the practice of the French surgeons who used a spray of paraffine. It works on the same principle. I think if you would try it you would see how much more satisfaction you will have than from skin grafting.

Member: I think I get the same result from applying pure carbolic acid, followed by dry border dressing and gauze.

Dr. Pember: How can you get away from skin grafting when you have to cover the whole scalp? I have seen the method applied by Dr. Beck, but when you have the whole chest, leg, or part of a leg, it seems to me that grafting is the best method.

Then, again, I never had any luck with epidermal grafts. It certainly does shorten up the period of convalescence a great deal, and I think that the method of carbolic acid might be all right for small wounds. I think Dr. Beck's method would be all right for medium wounds, but if you have extensive wounds, I don't see how you can cure them by any method other than by grafting. If Dr. Beck can explain how it can be done, I would be glad to hear how it can be done.

Dr. Beck: We happen to have a great many burns from the Electric Co. in Chicago and one of our internes has charge of them. . . . We have cases of extensive burns of the chest and arms. Some of them cover pretty near all of the chest and all of the back. We have not done any skin grafting on these cases. It is surprising that entire surfaces have been covered with skin after treatment with paraffine. I have seen in Cincinnati a case demonstrated in which the entire scalp had been treated by paraffine spray and the entire skin has regenerated on the head. I don't think that the objection raised is valid. I think it can be used on large surfaces, but I do not say that skin grafting should be entirely discarded. I use them myself. The doctor is perfectly correct that it shortens the duration. I think, however, you will find a great satisfaction if the patient has time to wait for the cure in my method. I don't advise the use of mucous membrane for skin and vice versa.

Industrial accidents killed 3,400 persons and seriously injured 50,000 in the state of Pennsylvania in 1918, according to reports reaching the United States Public Health Service. Most of such accidents are preventable; many the result of carelessness. Safety First.

Germ diseases kill off more people than the deadliest wars, says the United States Public Health Service. In 1917 pneumonia and tuberculosis killed 223,000 Americans, more than seven times the number killed in action in France.

REPORT OF CASE OF HEMOPHILIA WITH JOINT INVOLVMENT.*

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The increasing interest in the diseases of the blood as an organ, and especially those diseases in which there is a deficiency in its power to clot, has prompted me to report the following case. The presence of a marked delay in the clotting time with a scarcity in the typical "bleeding" attacks makes the case one of further interest. It illustrates well the fact that there is probably a special type of hemophilia, which is characterized by fairly marked limitation to involvment of the joints and is a typical case of the latter class.

Recent articles dealing at length with the symptoms, pathology, etiology, etc., of the disease contain very full bibliographies and no attempt will be made to give a complete one here. The reader is referred to the recent literature on the subjct.

Case: Arthur K., age 10 years, born in Milwaukee of Polish parents. Admitted to the Milwaukee Children's Hospital on September 5th, 1919, on the service of Dr. F. J. Gaenslen.

Family History: The paternal history is apparently free from hemophilia. On the maternal side the disease can be traced back for two generations. The mother immigrated to this country as a very young girl and remembers but little of her father or mother or their families. Her father has a history of rather frequent hemorrhages. He had one brother remaining in Europe who was not a bleeder. Two of his sons immigrated to this country. One died of "heart trouble"; the other of "asthma." There is no history of any hemorrhage tendency. One daughter living in this country is not a bleeder. Nothing is known of the offspring of the uncles and aunts of the patient. A second daughter, the mother of the patient, has never shown any tendency to abnormal bleeding.

The patient's mother had nine children, three of whom are bleeders. There are three daughters, all older than the patient. They have never shown any evidence of the disease. They all are married and together have twelve children, five of whom are males. These children have never shown any evidence of hemophilia. However, four are not past the age at which hemophilic symptoms have commenced in their uncles. One brother of the patient, age 32, has just returned from active service abroad and has a negative history. Two brothers, aged 16 and 20, respectively, have negative histories also.

A brother, age 29, is a bleeder. The first symptoms were noticed at six years of age when the patient bled for several days following a tooth extraction. A year or so following that he was struck in the mouth and bled for several days following that injury. Since that time he has had several severe hemorrhages following minor injuries. He has had swelling of both knees several times which has been diagnosed "rheumatism." There has been some crippling which has varied in severity. There remains an enlargement of one knee joint. In April, 1918, he received a slight cut on the ear with a resulting hemorrhage that continued for twenty-four hours. At this time he received hospital care.

Another brother, age 22, is also a bleeder. He has the usual history of hemorrhages beginning about 4 to 5 years of age. Hemorrhages occurred after the extraction of teeth, following minor injuries, etc. He was admitted to this hospital several times, the first admission being on November 18th, 1910, when a diagnosis of "Hemophilia with Joint Involvment" was made. Subsequent admissions occurred May 1st, 1911, May 25th, 1911, Oct. 4th, 1911, and March 5th, 1912. The clinical record for the admission on Oct. 4th, 1911, is the only one available. A short abstract will give some idea of his condition at that time. He was admitted with the history of a small nodule occurring just below the knee on the right leg four days previously. There was pain, swelling, local heat and an inability to walk. There was discoloration. The left leg was in a cast for a similar trouble. There was considerable swelling and discoloration about the right ankle joint. On October 14th an attempt to aspirate the right knee joint failed and an incision was made and a large quantity of clotted blood was removed from the joint. On discharge there was still some swelling, fluctuation, and discoloration of the right knee. There was a rigid patella on the left side and no ability to flex or extend the left leg. A recent visit to his home disclosed the fact that since his final discharge in March, 1912, he has had a recurrence of the knee

*Read before the Milwaukee Medical Society, Tuesday, November 11th, 1919.

trouble. At times he has not been able to work and there has been some deformity. Crutches are used part of the time. The deformity is attributed to rheumatism by the patient.

Personal History: The subject of this report is the youngest child. Apart from the hemophilia the history is essentially negative. He had measles and diphtheria at five and six years of age, respectively, without any complications.

Hemophilic History: There was no hemophilic tendency manifested till the age of six and he has had but two attacks of external bleeding. At six years of age the patient bit his tongue with a resultant hemorrhage that lasted three to four weeks. The bleeding was slow. The mother states that at the end of that time he was pale and very weak. Large ecchymoses were common and followed slight bumps and bruises. A few months later the extraction of a tooth was followed by a hemorrhage lasting several days. Local applications were of no avail, and finally the hemorrhage ceased spontaneously. This hemorrhage was also followed by pallor and weakness from which the patient recovered in three or four weeks.

The first joint involvment dates back one and one-half years when there is a history of swelling of the ankles followed by pain, stiffness, and discoloration. Both ankles were involved separately and at different times, but the mother is not very definite regarding the number of the attacks. No deformity of the ankle joints resulted.

The first knee involvment occurred one year ago following a fall from the barn. The right knee became red and tender. There was pain. Motion was restricted. Rest at home resulted in a diminution of the swelling and restoration of function in a week or two. There were no constitutional symptoms. Since that time the knee has been the seat of a similar trouble two or three times. The mother says that he "just bumps himself." There has been no loss of ability to walk, but there has been pain on using the leg, limping, etc. During the first attack he was treated by a physician who made a diagnosis of rheumatism. Lately the mother has been treating the knee herself with local applications of heat. The mother states that the swellings have always disappeared in time, leaving the knee apparently normal.

The latest attack, the one for which the patient was admitted, occurred about two weeks before admission following a trivial injury. The condition was discovered by a school nurse who referred the patient to the Out-Patient Department which sent him into the hospital.

Physical Examination: The physical examination revealed a well-nourished boy whose findings were essentially negative with the exception of the right knee and the skin.

The right knee was swollen, the swelling being mainly above and to the right side of the patella, along the line of the medial and lateral epicondyles. There was no floating of the patella and no swelling to the sides of the knee joint. There was a slight swelling of the popliteal space. There was a slight increase in the local temperature and slight discoloration, but no redness. There was no limitation of motion on extension, but there was only 100 degrees of flexion permitted. The joint was painful, tender on passive flexion, and on walking. There seemed to be an enlargment of the head of the tibia that was not swelling. The right knee had a circumference of 29.75 cm., compared with 25 cm. for the left knee, both measurements being taken across the middle of the patella. The ankle joints appeared normal.

The skin showed numerous ecchymoses, especially on the extremities. Many of them were 6-8 cm. in diameter.

Course in the Hospital: On the day after admission Dr. Gaenslen made the following note:

Knee joint swollen, capsule distended. There is a limitation of motion, only 100 degrees of flexion being permitted. No discoloration. Some increase in local heat. Patella does not give a muffled click as in the case of a tuberculous involvment of the joint. Thickened synovial sheath can be felt under the quadriceps tendon. No pain except on forced flexion of the knee.

The patient's course in the hospital was practically uneventful. The swelling and tenderness of the knee soon subsided. Function became practically normal, although there is still some 5-10 degrees of limitation in flexion. There appears to be a permanent decrease in the size of the right knee, which is most marked on the medial surface. The right knee measures 28.5 cm. as compared with 25 cm. for the left knee.

On September 13th the patient developed a furunculosis of the external canal of the right ear and there was a slight oozing of bright red blood from this source which persisted for four days, when

it stopped spontaneously. It started again on the 22nd of September, and bled for two days.

On October 6th, there was an effusion into the first metatarsal-phalangeal joint of the right foot. The capsule was distended. There was no discoloration, but there was an increase in the local heat. The joint was somewhat painful. The patient gave a history of a slight bump to the toe the day before. A needle was inserted and a small amount of dark, thick blood was aspirated. On October 10th there was a still greater increase in the size of the joint. It was more tender and painful. There was some discoloration at this time.

The patient was discharged from the hospital on October 18th. The right knee had nearly cleared up. Its circumference was 27.5 cm. There was no discoloration, no pain, and the function was practically normal. There was still some swelling and discoloration of the toe joint but it was much less and there was no pain. The patient's general health was excellent.

Course After Discharge: The patient was seen in the Out-Patient Department on October 27, 1919. He gave a history of another recent effusion into the right knee joint following extreme flexion. Circumference of the right knee, 31.43 cm. There was no pain. He was seen again on November 3, 1919. Circumference of the right knee was 29.84 cm. There were no subjective symptoms.

Laboratory Findings: Blood Examination: A fairly complete examination of the blood was made. The main findings are charted below.

Date	R. B. C.	W. B. C.	HB.	Differential
9-6-19	5,152,000	8,000	100%	PMN. 52%, S. L. 24%, L. L. 14%, Endo. Leuc. 10%.
9-20-19	4,864,000	11,200	95%	PMN. 56%, S. L. 34%, L. L. 5%, E. 3%, ENDO. LEUC. 4%.
9-23-19	4,928,000	10,400	96%	

Date	Coag. Time (Routine Clinical)	Coag. Time Pt.	(Venopunct) Control	Prothrombin (Howell)	Antithrombin (Hess)
9-13-19	5 min.				
9-20-19	6.5 min.				
9-23-19	5 min.				
9-24-19		34 min.	8.5 min.		
9-27-19		34 min.	9.0 min.		
10-1-19		26 min.	6.5 min.		
10-6-19		33 min.			
10-10-19				Decreased	Normal
10-15-19				Decreased	Normal

Date	Bleeding Time	Character of Clot	Platelets
9-6-19	Normal	Firm, Retractile	Increased (1-7)
9-20-19	Normal	Firm, Retractile	Increased
9-23-19	Normal	Firm, Retractile	Increased

Capillary resistance test, negative.

Von Pirquet Test on Sept. 5 was negative.

X-ray Findings: The important points in the X-ray findings were (1) The absence of atrophy of bone. (2) Absence of erosion of bone, (3) The distended capsule filled with blood, and (4) The thickening of the capsular membrane. The X-rays of the ankles were essentially normal but showed some disturbance of the epyphiseal line, not distinctive of the disease, but such as might occur following any long continued joint trouble.

Treatment of Hemophilia: Accepting Howell's theory of coagulation as the best proven and most logical at the present time, the most rational treatment of hemophilia is that which supplies those substances in the clotting system which are lacking. Drugs, in the narrow sense, are useless with the exception of calcium. In the small group of cases in which there is a proven deficiency in the calcium content of the blood the administration of calcium is indicated.

This leaves for consideration tissue extracts,

blood serum (of the horse, man, etc.), and human whole blood. Tissue extracts, which probably act through their thromboplastic content by binding the antithrombin have found considerable use in the form of local application to the bleeding point. They have not proven successful in acting on distant bleeding point by subcutaneous or intravenous injection. This is probably due to the fact that they are bound or destroyed in the body before reaching the point of application.

Blood serum has proven most efficacious in local use. In regard to general treatment Hurwitz[1] maintains that although it has been used extensively both subcutaneously and intravenously, on the whole, it has not proven successful either subcutaneously or intravenously in carefully controlled cases. He points out that its action is due to its thrombin content and that on standing the thrombin gradually changes to metathrombin which is inactive. Also, as it changes there is left behind antithrombin with its coaguloinhibitory properties. Hence it would seem that the use of old serum as diphtheria antitoxin, which is often used, and plain horse serum, is contraindicated.

Also, Ottenberg and Libman[2], in an excellent article on the treatment of hemorrhagic diseases, state that the thrombin is bound by anti-thrombin as soon as it enters or it would cause intravenous clotting, and hence is not available at distant points. In two carefully controlled cases in which they used serum intravenously they found no shortening of the coagulation time after its use both subcutaneously and intravenously.

This brings us to a consideration of human whole blood used intravenously, which Ottenberg and Libman consider a specific in hemophilia. This supplies the missing element at the point of application, or, as they put it, the "whole blood elaborates the thrombin at the bleeding point." They make the suggestion of prophylactic injections of whole blood and state that the effect lasts for a few weeks or months. This seems the most promising plan for the treatment of the disease in the future.

In the type of case presented here with the bleeding confined mainly to the joints, the hemorrhage is not sufficient to endanger life; it has usually ceased before treatment is instituted and local applications are impracticable. Aside from the question of general treatment in these cases, or prophylactic treatment, there arises the question of the treatment of the hemarthrosis. It is best met in the acute stage by absolue rest and local applications of heat. Under this treatment the condition usually subsides rapidly. In those cases in which there is permanent injury with danger of ankylosis and deformity of the joint, the problem becomes an orthopedic one, both prophylactic and curative.

Summary: The case presents the following points: (1) Hemorrhage, spontaneous, and traumatic, (2) An abnormality in the clotting of the blood, which abnormality is of the hemophilic type, (3) Joint involvment with effusion of blood into the joints, subsequent attacks involving multiple joints. So far the patient has escaped the end results of deformity and ankylosis.

Points of interest are the rarity of external bleeding, the lack of spontaneous bleeding, the mild constitutional symptoms following the hemarthroses, the marked restriction of the disease to joint involvment and similar restrictions in the patient's brothers, the lack of deformity, and the difference in the clotting time as determined by the usual clinical methods and by the method of venopuncture.

I am greatly indebted to Mr. Jansen for the excellent X-ray plates, to Dr. F. J. Gaenslen for permission to report the case, and especially to Miss Grace Te Brake, R. N., for her excellent assistance in the laboratory work.

1. Hurwitz, S. H., Am. J. M. Sc. 1917, CLIV, 689-707.
2. Ottenberg & Libman, Am. J. M. Sc. 1915, CL, 36.

A CALL FOR NATION-WIDE HEALTH CONSERVATION.

Preventable diseases cost the United States four billion dollars less in 1917 than it would had the health conditions of 20 years ago prevailed in 1917.

Four hundred thousand less deaths occurred in 1917 than would have had the 1900 death rate prevailed.

Annual illness of workers still costs this country two billion dollars each year.

One man in every three called by the Army was found to be physically unfit.

These figures were given out by Surgeon General Rupert Blue of the United States Public Health Service, in urging a plan for nation-wide conservation of health and calling on all health agencies to cooperate in a carefully prepared program.

Surgeon General Blue has sent a letter to State and City Health Officers, to the head of the American Red Cross, The American Public Health Association, the American Medical Association, the National Tuberculosis Association, the International Health Commission, the National Safety Council, the American Child Hy-

giene Association, and other health agencies, suggesting a conference in Washington to consider a health program prepared by the Public Health Service.

The Surgeon General points out that practically all of these agencies have under consideration some plan of health conservation and that unless the work can be coordinated and properly directed, little will be accomplished and there will be much over-lapping of effort and waste of funds.

It is emphasized that the success of the plan will be determined by its direct applicability to the conditions in the different local communities and for this reason Federal, State and local health officers must cooperate most closely in order to direct the campaign in each community and set a definite objective.

For instance, a Southern city would be more interested in a campaign against the mosquito and malaria than it would be in Rocky Mountain spotted fever. A Northern industrial city would be more interested in the control of pneumonia and respiratory diseases. All, however, have cancer, tuberculosis and venereal diseases; all would be benefited by public health nursing, medical supervision of school children, conservation of the lives of mothers and children, adequate sewage disposal, the provision of pure water and pure milk. So, while each city and rural community will have as a definite objective the most vital need in that particular place, the various health agencies will have definite objectives according to the particular problem they set for themselves to solve.

The health program to be submitted to the conference has been in preparation for months, experts of the Public Health Service long having foreseen the need of such a nation-wide effort. A preliminary announcement of the plan was made at New Orleans at the recent meeting of the American Public Health Association which gave unanimous endorsement.

Few realize what has already been accomplished in the field of preventive medicine or what can be done by a carefully executed health program which is cumulative and continuous rather than spasmodic and desultory in character.

In 1900 the general death rate from all causes in the United States was 17.8; in 1917, the latest figures available, it had been reduced to 14.2. Had the 1900 death rate prevailed in 1917 there would have been in the United States, with an estimated population of 110 million, 396,000 more deaths than actually occurred.

The record of other years leaves little room to doubt what may be done in saving life. In 1900 typhoid fever caused a death rate of 33.8 per 100,000 population. In 1917 the rate had been reduced to 13.4. Diphtheria was reduced from 35.4 to 16.5 in the same period. Tuberculosis declined from 190.5 deaths per 100,000 of population in 1900 to 146.4 in 1917. Had the 1900 death rate prevailed in typhoid fever, diphtheria and tuberculosis, in 1917, these three diseases alone would have caused 91,740 more deaths than actually occurred.

The Public Health Service is led to believe that its health program is feasible owing to the fortunate cooperation and successful termination of the extra cantonment work which was carried on so efficiently by the American Red Cross, State and local health authorities and the U. S. Public Health Service. The lesson taught by this splendid demonstration of team work should not be lost to the country. For this reason, the American Red Cross, which has set aside millions of dollars for health work in the United States, has been asked to take an active part in translating the health program into action. Its thousands of local chapters are counted on to arouse and maintain interest in health work and actively cooperate with Federal, State and local health officers in accordance with the announced policy of the American Red Cross to cooperate with existing health agencies.

THE ARMY DOCTOR.

(Berton Braley, in Everybody's Magazine.)

He gives us pills for many ills
  An' all the pills the same;
No matter what a guy has got
  The matter with his frame.
When we got well from calomel
  He's slipped us by the ton,
He thinks for sure our rapid cure
  Is something he has done.

Oh, the Army Doc is a bird that's fine,
He paints us over with iodine;
But for all we jeer an' for all we knock,
He's a regular fellow, the Army Doc!

For when a "show" is planned, we know
  The Doc is on our track
Where H. E.'s rain, to soothe the pain
  Of wounded, crawlin' back,
He takes his chance in our advance
  With surgeon's knife in hand;
Where gas clouds lurk he does his work
  —A job I couldn't stand.

For though I've kind of a fightin' nerve,
It's another sort of a thing to serve
In a bloody station where wounded flock,
An' that is the job of the Army Doc!

With probe an' splint he does his stint
  Without no rest or sleep,
Until he drops or something stops
  The wounded lines that creep
To get his aid. An' when he's made
  His final dressin', then
His nap he takes, an' when he wakes
  He's on the job again.

There's many a simple wooden cross
That marks the place of a Doctor's loss;
But many a soldier's cross ain't there
Because of the Army Doctor's care.
He's true blue-color that will not crock
An' I sure salutes to the Army Doc!

THE WISCONSIN MEDICAL JOURNAL

OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 514 Wells Building, Milwaukee

Vol. XVIII. December, 1919 No. 7

EDITORIALS

From Me To You

It is New Years Day, and I am glad to think that you are happy. The old year is gone, with its long, dreary days and its wearying commonplaces. If it brought you success, I rejoice with you. And if failure attended your undertakings, never mind. The New Year is here, bright with the promise of better things. Go on with your work hopefully and with renewed courage. And may God grant you grace and strength to accept humbly the little disappointments and the large successes; and to perform uncomplainingly the daily round of petty tasks. This is my New Years wish to you, my friend.

Ralph Lee

LEST YOU FORGET.

THIS ISSUE CLOSES THE FISCAL YEAR OF THE JOURNAL AND YOUR SUBSCRIPTION ENDS. IN A FEW DAYS YOUR MEMBERSHIP IN YOUR STATE MEDICAL SOCIETY AND YOUR PROTECTION UNDER ITS MEDICAL DEFENSE CLAUSE WILL EXPIRE. EACH YEAR YOUR OVERWORKED AND UNDER-PAID COUNTY SECRETARY HAS BEEN COMPELLED TO WRITE AGAIN AND AGAIN TO MEMBERS FOR THEIR DUES. LETS EASE UP ON HIM THIS YEAR. YOUR 1920 DUES ARE PAYABLE *NOW!* MAKE HIM A XMAS PRESENT THIS YEAR BY SENDING THEM *TODAY!*

POSTGRADUATE MEDICAL INSTRUCTION FOR THE YEAR 1919-20.

THE 1919-20 courses in postgraduate medical instruction given by the Department of Medical Extension, University of Wisconsin, are available January first. A Bulletin listing the sixteen lecturers and the subjects they are prepared to present, has been published and has been mailed to the officers of your society. This is an unusual opportunity to get postgraduate work at home without the expense and loss of time from your practice involved in a course of study in our large medical centers, and it is an opportunity to make your county society programs worth while. If your officers have taken no action it would be well to acquaint them with your wishes for such a course. Arrangements have been made whereby former officers of the army or navy can secure the courses without payment of fees through the operation of the educational bonus law.

The purpose of the courses offered in postgraduate medical instruction is to provide physicians, residing in a given locality, with practical demonstrations of the newer methods of diagnosing and treating disease. Clinics are held at a hospital conveniently located, illustrated lectures are given, and opportunity is offered for consultations with specialists. Arrangements may be made for a single clinic and lecture or for a series of weekly, bi-weekly, or monthly clinics and lectures. Arrangements for these clinics and lectures may be made by cooperation between the local physicians under whose auspices the clinics and lectures are held and Dr. Rock Sleyster, Chief of Organization. Physicians enrolling for the course are charged a fee sufficient to cover part of the overhead expenses, the balance is paid from the small appropriation made for this work by the state legislature.

SUPPOSE.

SUPPOSE the members of the American Medical Association should hold a convention at which they adopted a resolution demanding an increase of 60 per cent in fees, a six-hour day, a 30-hour week, extra fees for overtime, and bound themselves to refuse to perform any service whatever for the public until these demands were complied with. Imagine the plight of the sick and injured, and measure if you can the state of public sentiment toward the American Medical Association.

Suppose the Retail Grocers' Association should adopt a resolution binding its members not to sell an ounce of food to members of the American Medical Association or to anyone connected with them while the unreasonable demands stood, basing their action on the ground, amongst others, that the attitude of the doctors menaced the life, health and comfort of the nation in general and the prosperity of the grocery trade in particular. Imagine the plight of the doctors' families, their wives and little children.

No man liveth unto himself. No man, however rich or poverty stricken, but is dependent upon the service of his fellow men.—*Monroe (Wis.) Gazette.*

PREVENTION OF DISEASE.

EVERY physician will be glad to have the facts presented in the tables below. They indicate in no uncertain way the notable progress that has been made in the prevention and control of infectious and contagious diseases in the U. S. Army. They should stimulate every physician to give a whole-hearted support to our public health agencies. What has been accomplished in the army can be accomplished at home but it calls for teamwork.

DEATHS IN THE U. S. ARMY (INCLUDING THE A. E. F.) FROM DISEASE DURING THE WORLD WAR.

DISEASE	Number of deaths that occurred in present war, Sept. 1, 1917—May 2, 1919. Average strength approximately 2,121,396.	Number of deaths that would have occurred if the Civil War death rate had obtained.	Number of deaths that would have occurred if the Spanish - American War death rate had obtained.
Typhoid Fever	213	51,133	68,164
Malaria	13	13,951c	11,317
Dysentery	42	63,898b	6,382b
Smallpox	5	9,536	37
Pneumonia	41,747a	38,962a	6,086
Scarlet Fever	167	112	222
Diphtheria	100	1,188	149
Tuberculosis	1,220	9,574	631
Meningitis	2,137	3,859	4,081
Other diseases	3,768	34,881	15,587
Total of diseases	49,412	227,094	112,656

(a) Includes deaths listed from measles, influenza, empyema, inflammation of the lungs and pleurisy, as well as pneumonia.

(b) Includes dysentery and diarrhea.

(c) Includes malaria and remittent and congestive fevers.

RED CROSS QUARANTINE CAMPS IN SIBERIA.

With the onset of winter, typhus has very seriously increased in Siberia. As a result of this the American Red Cross has begun the construction of three great quarantine camps at Omsk, Ishim and Petropavlovsk, each of which will have a thousand beds and ample delousing and disinfecting plants to take care of both soldiers and civilians. The construction is financed by the Omsk government, while the Red Cross will supply supervisory personnel and some of the medical and hospital supplies.

Two mobile field hospitals in box car units are also being established by the Red Cross for the Siberian armies.

During the war the American Red Cross furnished 294,000 splints for American soldiers. It also supplied 4,340,000 gallons of nitrous oxide and oxygen to French hospitals.

THE JOURNAL CLINIC

Edited by
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SOME CASE HISTORIES OF ITCHING DERMATOSES.

BY O. H. FOERSTER, M. D.,
MILWAUKEE.

From the statistical data on cutaneous diseases collected by the American Dermatological Association over a long period of years, it is readily seen that the aggregation of large numbers of people, such as occurred at the time of the World's Fair in Chicago in 1893, at the St. Louis and Buffalo expositions, and during the War with Spain, is followed by a marked increase in the number of cases of parasitic skin diseases, especially scabies, throughout the United States. An increase in the incidence of scabies following the Great War had been predicted and the prediction is evidently in process of verification, so that at the present time the itching dermatoses have acquired an especial interest. Three case histories have therefore been selected for presentation of three conditions which may be regarded as typical of those encountered in practice at present and which are at times confusing.

CASE No. 1. Salesman, married, age 28.

Complaint: Severe itching causing a variable amount of discomfort during day and sleeplessness at night for past 3½ months, and said to be growing worse.

Past History: Negative until six months ago, at which time he developed scabies which was treated and apparently cured before discharge from the army.

Family History: Similar complaint, of recent origin, on part of wife and mother.

Examination: The affection is present on the flexor surface of the arms, forearms and thighs, anterior axillary folds, chest, lower abdomen, buttocks and scrotum. The skin in these regions shows irregularly-shaped and sized patches of intense erythema, with crust-covered and eroded papules and placques, and some linear excoriations. There is a tendency to vesicle formation in the inflammatory areas, but this is interrupted by scratching, resulting in denuded oozing surfaces. There are also some extensions beyond the sites mentioned and scattered areas of moderate erythema with a variable amount of scaling.

Diagnosis: Among the diseases to be considered are scabies, eczema, neurodermitis, and dermatitis venenata. Neurodermitis is ruled out by the acute inflammatory and exudative process, distribution of the eruption, and absence of lichenification. While the condition is eczematoid in character it cannot be called an eczema in the narrow sense of the term, because of the multiformity of the lesions, without the characteristics of any one type of eczema, and the evidence favoring a known dermatosis. Scabies is favored because of the history and distribution of the disease. The condition is, however, too inflammatory for scabies uncomplicated by pyodermia, and there is no pyodermia. The eruption also extends over areas not favored by the itch mite, and on the favorite localities for this disease, such as the webs of the fingers, axillary folds and genitals, there are none of the characteristic burrows nor tiny linear grouped papules. Questioning brings out the fact that a sulphur ointment had been indiscriminately used by the patient over a long period of time to overcome what had apparently been scabies. The condition developed is an erythematous and exudative papular dermatitis of external origin, the causative agent having been sulphur.

Treatment: The condition belongs to the Dermatitis Venenata group, and soothing astringent and mildly antipruritic applications are indicated.

CASE No. 2. H. F., bookkeeper, single, age 32.

Complaint: Generalized itching of five weeks' duration.

Past and Family History: Negative. Patient lives alone.

Examination: The severest itching occurs on the outer aspects of the arms and forearms, and on the scrotum. The former shows vaguely defined patches of moderate erythema studded with numerous papules of pinhead size and shape. The skin of the scrotum is reddened, infiltrated, and excoriated, the excoriations being crust covered. The penis shows dime-sized patches of inflammation with vesicles and exudation. There are scratch marks over the scapular and inguinal areas and buttocks, with some small papules and erythema. The flexor surfaces of the wrists and the webs of several fingers show minute, curved burrows, scaling and inflammation. The umbilical and axillary regions are free.

Diagnosis: The parallel scratch marks over the scapulae, buttocks and thighs call for a consideration of pediculosis corporis, but the absence of wheals and papules with hemorrhagic puncta, and the numerous other lesions, rule this out. The character of the papules and erythema on the arms and shoulders somewhat resemble papular urticaria, but there is no dermographism or other evidence of an urticarial tendency. The condition is distinctly a scabies eruption as evidenced by the typical lesions in typical areas, such as the webs of the fingers and flexors of the wrists. The genitals, groins and buttocks show scabies lesions slightly altered by scratching. The arms, however, are the site of a papular dermatitis, not due to scabies, but to the application of a proprietary eczema salve containing sulphur;

the flexor surface of the right wrist shows a similar condition.

Treatment: Notwithstanding the presence of a sulphur dermatitis, the use of a sulphur containing antiscabitic remedy is indicated, the patient being cautioned not to apply it too vigorously over the areas of the dermatitis. Sterilization by heat of all personal and bed clothing is directed in all cases of scabies as an essential part of the treatment in order to prevent reinfection.

CASE No. 3. O. W., merchant, age 48.

Complaint: Intense itching of forearms and penis, of several weeks' duration appearing first on the arms.

Past and Family History: Negative.

Examination: The glans penis shows several aggregations of small, flat, discrete papules arranged in small rings, varying in color from dull red to brown. The mucous surface of the prepuce shows an erythematous patch of macerated epithelium studded with tiny vesicles. There is no infiltration of the lesions. On the flexor surfaces of the forearms and wrists are patches of closely set, discrete, dry, shiny, flat-topped, pinhead-sized, lilac and brownish papules. There is a little dry scaling from scratching, but no inflammation and no exudation. The skin is slightly infiltrated over the flexures. The buccal mucous membrane near the corners of the mouth shows irregular patches of yellowish, slightly thickened epithelium.

Diagnosis: An itching eruption in the regions indicated at once suggests scabies—close examination fails to show lesions in other sites of predilection for scabies. The lesions present are not scabitic, scabies papules being small, rounded, frequently peri-follicular and showing a tendency to vesicle or pustule formation and linear grouping. There are no scabies burrows. A chronic lichenified eczema is ruled out because of the short duration of the eruption, insufficient infiltration of the involved skin, absence of cross-hatching and presence of distinct features of another condition, that being lichen planus. The individual papules are clearly defined, have angular or polygonal bases, flat, shiny tops with, in some cases, central depressions, and a suggestion of the violaceous tint, all characteristic of this disease. The brownish tint of lesions undergoing regression is also of diagnostic value in lichen planus. The lesions on the glans are the annular types of lichen planus, those on the prepuce a complicating herpes simplex. Though lichen planus occurs on the buccal mucosa it is in this case ruled out, as is the syphilitic mucous patch, and the condition is considered a leucoplakia caused by tobacco, because of its sodden, sharply marginated character, its yellowish color, absence of peripheral striations, and appearance of being "stuck on" the mucous membrane.

Treatment: Injections of bichloride of mercury, 1-6 to 1-4 grain every third day, are effective in many cases, and usually afford prompt relief from the intolerable itching. Protoiodid of mercury given internally in 1-6 to 1-4 grain doses three times a day, is by some regarded as almost specific in its effect, though I have not been convinced of this. The old and tried Fowler's solution in increasing doses is perhaps more useful in lichen planus than in the other three cutaneous disorders for which it is almost routinely prescribed: psoriasis, pemphigus, and dermatitis herpetiformis. In the extensive, almost generalized eruptions of lichen planus arsenical medication is more often effective than is mercury. Hot starch baths are useful in relieving pruritus in the extensive eruptions, and an ointment of phenol and calomel, each ten grains, to an ounce of paste (two drachms each of zinc oxide and starch with four drachms of petrolatum) may be applied when only small groups of lesions are present. In obstinate cases restriction of the diet to tea, toast, and rice for several days appears to be of benefit at times.

FROM A CHILD'S TOY.

Just one hundred years ago Rene Theophile Hyacinthe Laennec, one of the pioneers of modern medicine, observing some children playing in the gardens of the Louvre, listening to the transmission of sounds along pieces of wood, conceived the idea of utilizing this method for listening to breath sounds in examining a patient's lungs. He went home, fashioned a tube by rolling up some glued paper and then experimented with this in his ward at the Neckar Hospital. From this incident in the garden dates the modern "stethoscope," an instrument well nigh indispensable in the modern practice of medicine.

The early stethoscopes contrived by Laennec, were unlike those generally in use in this country at the present time for they were constructed to be used by one ear only. Nevertheless the original Laennec type is still widely used in European countries. To us, who are accustomed to the scrupulous cleanliness of everything about the modern hospital, it is curious indeed, to learn that the filthy condition of the patients in the hospitals in Laennec's time made it repugnant to physicians to listen to the sounds in the lungs by placing the ear directly on the chest of the patient.

Laennec gave his invention the name by which the device is still known, deriving the word stethoscope from two Greek roots, one meaning the "chest" and the other "to observe" or "regard."

Dr. Laennec was born at Quimper in Brittany on February 17, 1781, growing to manhood during some of the most troublous years in the history of France. He studied medicine at Paris, receiving his degree of medicine in 1804. He died on August 13th, 1826, at the early age of 45, in the quaint old town in Brittany in which he first saw the light.

Heart diseases caused more deaths in 1917 than any other ailment (115,337), says the United States Public Health Service. Right living would materially reduce this. Don't wait for the disease to develop before you see your physician.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
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HIGH FATALITY RATES OF COMMUNICABLE DISEASES IN WISCONSIN: EVIDENCE OF INCOMPLETE MORBIDITY REGISTRATION.

BY ROBERT OLESON, M. D.,

PAST ASSISTANT SURGEON, U. S. PUBLIC HEALTH SERVICE; EPIDEMIOLOGIC AIDE, WISCONSIN STATE BOARD OF HEALTH,

MADISON.

That physicians generally fail to report a large proportion of the cases of communicable disease brought to their attention is a trite observation. While it might be assumed, because of the advanced social, economic, political and general medical standing of the State that Wisconsin physicians are in the vanguard of those observing the law which requires the notification of certain disease yet this is far from coinciding with the actual facts. Moreover, it is clearly indicated by an analysis of the available data that the medical practitioners in Wisconsin compare unfavorably with those of other States with respect to morbidity registration.

While there are no means of estimating accurately how many recognized cases of communicable disease are reported to the health authorities, nevertheless it is possible to ascertain the approximate completeness of notification from the fatality rates, which are the ratios of reported cases to reported deaths. A fatality rate based upon a comparatively large number of cases and deaths may ordinarily be regarded as indicating the prevailing and representative experience in this respect. However, the fatality rate must not be considered an inflexible indicator, for there are numerous and varied factors influencing the subject.

A low fatality rate, especially when based upon a relatively large number of reported cases of communicable disease and a small number of deaths is frequently significant. It usually indicates that the practicing physicians are reporting well and that the health authorities are actively engaged in applying control measures.

An unusually low fatality rate may justly be regarded with suspicion for it may be that the registration of deaths was incomplete or that inaccurate causes of death were assigned by the attending physicians. In justice to the locality, however, it may be admitted that a very low fatality rate may also be due to the fact that the disease was treated with unusual success, or that it was mild in character. Furthermore, the probability that very complete case reports were submitted is worthy of consideration.

The chief conclusion to be drawn from a high fatality rate is that the case reports were incomplete. It is also possible that the disease in question was unusually virulent or that the physicians did not achieve the customary degree of success in treating the infection. Few practitioners in Wisconsin, however, will admit that they are less capable of administering skilled treatment than those in other sections of the country.

Unfortunately it is impossible to prepare fatality rates for all of the communicable diseases. In Wisconsin, for instance, deaths exceed the reported cases of cerebrospinal meningitis and pulmonary tuberculosis, indicating that the physicians are notably delinquent in reporting cases of these particular diseases. Fortunately, however, there are other diseases, diphtheria, measles, scarlet fever and typhoid fever, which occur generally and are reported with varying degrees of completeness. Moreover, the records of cases of and deaths from these diseases are sufficiently accurate to warrant comparative studies.

One of the most interesting studies of fatality rates in their relation to efficiency of morbidity registration was that of Drs. John S. Fulton and John S. Fulton, Jr., of Baltimore. They proposed the establishment of a provisional registration area based upon a consideration of 1,026,528 cases and 61,105 deaths from diphtheria, measles, scarlet fever and typhoid fever reported in 32 States during the years 1912, 1913 and 1914. The fatality rate in this instance was 5.95 per cent, being a mortality of 5.92 per 100 reported cases. It was suggested that 15 States having fatality rates less than the standard (5.95 per cent) be included in the morbidity registration area. Wisconsin, with a fatality rate of 7.12 per cent, showed so large a deficit in the registration of sickness as to call for exclusion from the provisional area.

In Table 1 are shown the fatality rates for certain States as compared with Wisconsin.

It will be noted that the single and combined rates in Wisconsin are consistently and strikingly higher than those for all the States. Furthermore,

TABLE 1

FATALITY RATES PER 100 CASES for certain American States and for Wisconsin, for years 1912, 1913, and 1914 from DIPHTHERIA, MEASLES, SCARLET FEVER and TYPHOID FEVER and their totals

DISEASES	Number of States considered	Combined States			Wisconsin			States With	
		Number of cases	Number of deaths	Fatality rate per 100 cases	Number of cases	Number of deaths	Fatality rate per 100 cases	Higher fatality rates	Lower fatality rates
Diphtheria	33	220,432	22,832	**10.35**	6,967	847	**12.2**	10	22
Measles	28	471,742	8,313	**1.76**	15,389	288	**1.87**	9	18
Scarlet Fever	32	212,346	9,729	**4.58**	9,225	640	**6.93**	4	27
Typhoid Fever	31	122,008	20,231	**16.58**	22,237	634	**28.34**	3	27
Totals	33	1,026,528	61,105	**5.95**	53,818	2,409	**7.12**	14	18

it will be seen that the rates for scarlet fever and typhoid fever are among the highest recorded, while nearly two-thirds of the States have lower rates than diphtheria. More than one-half of the States have lower rates for measles and also lower rates for all of the diseases combined.

Further consideration of fatality rates for separate years throws additional light upon the incompleteness of morbidity registration in Wisconsin. In Tables 2, 3 and 4 the fatality rates for combined States and for Wisconsin are shown for each of three years, 1915, 1916 and 1918.

TABLE 2

FATALITY RATES PER 100 CASES for certain American States and for Wisconsin, for 1915, from DIPHTHERIA, MEASLES, SCARLET FEVER, and TYPHOID FEVER and their totals

DISEASES	Number of States considered	Combined States			Wisconsin			States with	
		Number of cases	Number of deaths	Fatality rate per 100 cases	Number of cases	Number of deaths	Fatality rate per 100 cases	Higher fatality rates	Lower fatality rates
Diphtheria	20	58,215	5,187	**8.9**	1,699	186	**10.95**	4	15
Measles	21	130,862	1,472	**1.1**	4,425	24	**.54**	16	3
Scarlet Fever	23	48,180	1,254	**2.6**	1,991	68	**3.42**	3	20
Typhoid Fever	24	24,228	5,084	**20.5**	400	98	**24.5**	7	16
Totals	24	261,485	12,997	**4.95**	8,515	376	**4.4**	....	....

TABLE 3

FATALITY RATES PER 100 CASES for certain American States and for Wisconsin, for 1916, from DIPHTHERIA, MEASLES, SCARLET FEVER and TYPHOID FEVER and their totals

DISEASES	Number of States considered	Combined States			Wisconsin			States with	
		Number of cases	Number of deaths	Fatality rate per 100 cases	Number of cases	Number of deaths	Fatality rate per 100 cases	Higher fatality rates	Lower fatality rates
Diphtheria	26	78,312	7,346	**9.4**	1,981	213	**10.75**	10	14
Measles	24	260,085	3,788	**1.45**	16,153	172	**1.06**	12	11
Scarlet Fever	25	66,451	1,490	**2.24**	3,983	110	**2.76**	4	21
Typhoid Fever	25	61,618	7,473	**12.1**	999	173	**17.32**	11	14
Totals	26	466,466	20,097	**4.3**	23,116	668	**2.9**	....	....

TABLE 4

FATALITY RATES PER 100 CASES for certain American States and Wisconsin, for 1918, from DIPHTHERIA, MEASLES, SCARLET FEVER and TYPHOID FEVER and their totals

DISEASES	Number of States considered	Combined States			Wisconsin			States With	
		Number of cases	Number of deaths	Fatality rate per 100 cases	Number of cases	Number of deaths	Fatality rate per 100 cases	Higher fatality rates	Lower fatality rates
Diphtheria	35	87,663	10,313	**11.8**	1,774	250	**14.1**	13	21
Measles	35	396,343	9,264	**2.34**	19,376	100	**.5**	34	0
Scarlet Fever	33	79,168	2,220	**2.8**	4,401	179	**4.1**	4	28
Typhoid Fever	34	36,978	9,464	**25.6**	368	94	**25.5**	19	14
Totals	35	600,152	31,161	**5.2**	25,919	623	**2.4**	....	....

These tables are chiefly interesting because of showing a change in the annual fatality rates associated with measles in the State of Wisconsin. While the rates for diphtheria are persistently higher, those for measles are lower than those for the combined States. It will be noted also that the total fatality rate for each year is lower than for the combined States, this being due to the relatively large number of cases and few deaths reported as being due to measles. It appears from available statistics that Wisconsin physicians are more prone to report cases of measles than of diphtheria, scarlet fever or typhoid fever. This may be due to the fact that the State Board of Health does not require the placarding of homes in which measles is present while such a requirement is made in the instances of diphtheria and scarlet fever.

It is frequently stated that communicable diseases are better reported in cities than in the country at large. That this is not invariably true in Wisconsin is shown by the data contained in Tables 5 and 6.

TABLE 5

FATALITY RATES PER 100 CASES for certain American cities with over 100,000 population and for the City of Milwaukee, Wisconsin, for year 1918, from DIPHTHERIA, MEASLES, SCARLET FEVER and TYPHOID FEVER and their totals

DISEASES	Number of cities	Combined Cities			City of Milwaukee			Cities With	
		Number of cases	Number of deaths	Fatality rate per 100 cases	Number of cases	Number of deaths	Fatality rate per 100 cases	Higher fatality rates	Lower fatality rates
Diphtheria	65	48,942	4,748	**9.7**	430	51	**11.9**	16	48
Measles	61	135,879	2,225	**1.6**	6,394	54	**.8**	44	16
Scarlet Fever	58	28,905	764	**2.6**	1,327	51	**3.8**	8	49
Typhoid Fever	65	7,833	1,642	**21.0**	103	28	**27.2**	17	47
Totals	65	221,559	9,379	**4.24**	8,254	184	**2.23**	....	....

TABLE 6

FATALITY RATES PER 100 CASES for certain American cities with less than 100,000 and more than 10,000 population and 16 cities of similar size in Wisconsin, for 1917, from DIPHTHERIA, MEASLES, SCARLET FEVER and TYPHOID FEVER and their totals

DISEASES	Number of cities considered	Combined Cities			16 Wisconsin Cities		
		Number of cases	Number of deaths	Fatality rate per 100 cases	Number of cases	Number of deaths	Fatality rate per 100 cases
Diphtheria	323	18,603	1520	**8.2**	635	68	**10.7**
Measles	174	62,478	623	**1.0**	1300	8	**.6**
Scarlet Fever	151	13,660	354	**2.6**	1224	36	**2.9**
Typhoid Fever	282	8,155	1469	**18.0**	176	44	**25.0**
Totals	323	102,896	3966	**3.88**	3335	156	**4.65**

These tables, while primarily prepared for the purpose of comparing the fatality rates of Wisconsin cities with other communities of similar populations, indicate also that measles and sometimes typhoid fever are more accurately reported in the State at large.

When Wisconsin cities of more than 10,000 and less than 100,000 population are contrasted with combined cities of similar size in the remainder of the country, results paralleling those in Tables 1, 2 and 3 are obtained. Likewise Milwaukee, when compared with 65 other cities with populations over 100,000 discloses individual rates exceeding those of the combined cities, measles again being excepted.

The fact that the fatality rates for diphtheria, scarlet fever and typhoid fever (and sometimes measles) are higher than for many other single States or in all combined is not to be interpreted as indicating either an unusual prevalence or mortality from these diseases. An examination of comparatively accurate data obtained from the Census reports shows that the mortality from these affections is almost uniformly lower for Wisconsin than for the registration area of the United States. From these data, therefore, it will be clear that the fatality and mortality rates in Wisconsin differ materially.

TABLE 7

DEATH RATES per 100,000 population in the registration area of the U. S. and in the State of Wisconsin, for years 1912–1918, from DIPHTHERIA, MEASLES, SCARLET FEVER and TYPHOID FEVER

YEARS	DIPHTHERIA		MEASLES		SCARLET FEVER		TYPHOID FEVER	
	Registration Area	Wisconsin	Registration Area	Wisconsin	Registration Area	Wisconsin	Registration Area	Wisconsin
1912	18.2	12.5	7.0	5.2	6.7	11.9	16.5	12.9
1913	18.8	12.4	12.8	7.6	8.7	8.1	17.9	9.0
1914	15.7	8.6	5.4	4.7	3.6	4.4	12.4	4.2
1915	17.9	5.0	6.8	1.4	6.6	2.6	15.4	3.8
1916	14.5	9.2	11.1	11.8	3.3	5.0	13.3	8.0
1917	16.5	12.8	14.3	2.4	4.2	9.3	13.4	5.2
1918	*	9.8	*	3.9	*	7.0	*	3.7

*Data not available.

In this connection it should be pointed out that the death rate from scarlet fever actually is high in Wisconsin, frequently being in excess of that for the registration area. In this respect at least the fatality rates bear out the evidence adduced by the mortality rates. As shown in Table 7 the mortality from measles in 1916 was 11.8 per 100,000 in Wisconsin, exceeding the mortality of the registration area for the same year, which was 11.2.

CONCLUSIONS.

1. The fatality rates from diphtheria, scarlet fever and typhoid fever and occasionally for measles in Wisconsin are invariably higher than for all the States combined and also higher than the majority of the individual States.

2. The fatality rates of Wisconsin cities of more than 10,000 and less than 100,000 population and also for Milwaukee are greater than other cities of corresponding size.

3. The mortality rates from communicable diseases in Wisconsin are lower than the mortality rates for the registration area of the United States.

4. Fatality rates are fairly accurate indices of the completeness of morbidity registration.

5. Diphtheria, scarlet fever, typhoid fever and other communicable diseases are unsatisfactorily and incompletely reported in Wisconsin.

In the future articles the necessity for prompt and complete morbidity registration will be shown and a means suggested whereby the required reports may be secured.

DANGER TO ALL.

This interstitial gland discovery and its bearing on eternal youth is causing trouble already.

And no one will wonder at it. Anyone who knows the headlong impatience of men of science and their aversion to having their researches delayed in any manner might have known that they were not going to sit around and wait for healthy young men to be run over by automobiles or to be hanged or otherwise to be cut off in the flower of their youth so that the medical men could pry out their interstitial glands and plant them in septuagenarian patients.

While no one expected that the scientists would deliberately go out foraging in their automobiles looking for likely young men to run over, with a view to obtaining their interstitial glands, and while it is inconceivable in this day that the practices of the celebrated Mr. Burke would be resorted to with the consent or connivance of the scientific fraternity, modern science has supplied means for the unlawful acquisition of interstitial glands which, it is alleged, were adopted by New York experimenters.

They are accused in a suit at law of having placed a youthful and healthy gentleman under the influence of ether and, while he slept, removing by stealth the valuable glands which later they introduced into the anatomy of an elderly person who desired to experience again the skipful enthusiasm of youth.

This is a serious charge and one not to be treated with levity. If this practice is going to grow up none of us will be safe. Who can tell when some enthusiastic scientist will come prowling about our homes armed with a bottle of ether and a kit of surgeon's tools? One will never know when he goes to bed at night whether he is going to wake up with his interstitial glands in himself or in somebody else. And submitting to the administration of an anaesthetic even for the removal of a tooth is going to be fraught with dangerous possibilities unless one is thoroughly certain that the dentist is an honorable man and not in league with the investigators.

The slogan for all men who still enjoy youth and health is, "hang on to your interstitial glands." Eternal vigilance is the price of their retention.—*Milwaukee Sentinel.*

IF
ANY ONE HAS

Killed a pig
Shot his wife
Got married
Borrowed a stamp
Made a speech
Joined the army
Robbed a bank
Bought a Ford
Sold a dog
Lost his wallet
Gone fishing
Broke his neck
Committed suicide
Shot a cat

Bought a house
Been away
Come back home
Moved his office
Got rich
Taken a vacation
Been in a fight
Got licked
Has no oil stock
It's news.

SEND IT TO

THE EDITOR.

MEDICINE DETHRONES A MONTENEGRIN SAINT.

On the summit of a mountain between Podgoritza and Niesic, is the shrine of Saint Vascilla, patron saint of

Montenegro. Within a stone sarcophagus rests the body of the saint, and the hand is exposed so that his votaries may kiss it. The natives believe that each year their benefactor comes down from his high retreat to cleanse all sins and heal all sickness. Every week thousands of pilgrims come to the mountain shrine—on foot, on horseback, in ox-cart or on stretchers—to pay homage to the venerated saint, and to seek his spiritual and temporal blessing.

But since the arrival of the American Red Cross doctors fewer pilgrims have come to the ancient shrine, for the natives have found that their ills can be cured much nearer home and with much more certainty at any of the numerous Red Cross dispensaries and clinics. Indeed so many remarkable cures have been made in cases of long standing, that the peasants believe these doctors to possess the same healing power as their patron saint.

So widely has the reputation of the Americans spread that sufferers are brought in from the most remote mountain regions. One old woman was brought a four day journey over mountain roads in an iron pot—and was sent back cured, in spite of the hardships of the journey. There are some afflictions, however, that baffle the skill of even these wonder workers. In numerous instances blind people have been led down over the tortuous mountain trails only to find at the end of their journey that nothing can be done for them. Cataract is very prevalent in the country, due chiefly to chronic malaria.

The remedies which these peasants formerly relied on were most curious, and show their descent from magic rites. When a Montenegrin is wounded, his first thought is to apply chewing tobacco, horsehair or a fresh rabbit skin, hair side down. Common ink is considered a sovereign remedy for burns, and when anyone is bitten by a dog the common method of treatment is to capture the animal, pull off his ear, and rub the wound with it.

ARMY BASE HOSPITALS TO BE HELD INTACT.

In accordance with the wishes of the military authorities and as part of the peace program of the American Red Cross, Base Hospitals organized by the Red Cross for the Army, and which saw war service, will be held intact against future emergencies. War may never again visit this country, it is true, but there are the great disasters of peace—floods, earthquakes, epidemics—which might require immediate facilities, such as only could be supplied by a carefully organized and equipped system of base hospitals, which the Red Cross has as a legacy from its war experience.

These fifty base hospitals are located at important points through the country, and their personnel recruited from the staffs of the hospitals in their vicinity. As a result of their war service, the doctors and nurses are incomparably well fitted to undertake such emergency tasks, and virtually, in all cases are being kept enrolled for duty when needed.

The army is cooperating with the Red Cross by providing each base hospital with a unit of equipment in accordance with military standards, stored in a government storehouse as near as possible to the city in which the base hospital is situated. Red Cross Chapters, also, are assisting in the reorganization of the base hospitals for peace times, and will cooperate when base hospitals may be called for emergency service.

A CAUCASIAN MEDICAL SCHOOL.

The gift of supplies and equipment for the new City Hospital at Ekaterinodar, in southern Russia, by the American Red Cross, has served as a stimulus to the establishment of a first class medical school in the Caucasus.

The hospital, which occupies the former "gymnasium," or high school building, is complete with wards containing 350 beds, laboratories and three operating rooms, and is one of the most modern buildings in the country. It covers a ground area of about five acres, is constructed of red brick and sandstone, and faces the park of the Cathedral. To the right of the main entrance is a bronze tablet, inscribed:

THIS HOSPITAL WAS ESTABLISHED,
THROUGH THE GENEROSITY
OF
THE PEOPLE OF THE
UNITED STATES OF AMERICA
BY THE AMERICAN RED CROSS, 1919.

The equipping of the hospital was effected with medicines, instruments and supplies landed from a Red Cross ship at Novorossick, which were installed under the direction of Dr. J. J. Szymanski of Passiac, N. J.

The staff has some of the best professors and surgeons of Petrograd and Moscow, who fled to the Cossack State at the beginning of the Bolshevist regime. Professor Alexiensky, formerly of the University of Moscow, will be chief surgeon. The school will therefore have the benefit of some of the finest medical and surgical talent in Russia.

If anyone be stung or bitten of any animal and the sting or teeth be left behind in the place bitten, then it is needed that that place be rubbed gently with oil and ashes. Afterward a plaster is to be placed on the part, made of oil and leaven, and thus the poisonous stings or teeth are drawn out.—*Petrus Abbonus. De Venenis.*

If thou hast a stone of jasper engraved with a figure of Mars, or of a virgin holding a laurel in her hand and clothed about with a long stole, and this set in gold, so shalt thou be protected against violent death and by drowning, and thou shalt know to defend thyself from death in the battlefield.—*Zimara. Antrum Magicorum.*

If it be seen that mules and asses, without any present reason, for a long time move their heads and ears about, that is a certain of the coming of rain.—*Mizaldus. Ephem'.*

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The Wisconsin Medical Journal, Official Publication

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SOCIETY PROCEEDINGS

BARRON-POLK-WASHBURN-SAWYER-BURNETT COUNTY

A meeting of the Barron-P.-W.-S.-B. County Medical Society was held in Spooner, December 17. The following program was given: "Health by Mail," by Dr. Oleson of the Federal Public Service; "Venereal Disease Control in Wisconsin," by Dr. Henika of Madison; "The Bacteriology of Some Acute Infectious Diseases—Their Prevention, Diagnosis and Treatment," by Dr. Stovall, director of the State Laboratory of Hygiene; and "A Case Report with Post-Mortem Findings," by Dr. D. L. Dawson. Officers were elected for the coming year.

D. L. Dawson, M. D., *Secretary.*

DANE COUNTY

At a meeting of the Dane County Medical Society held November 11, a resolution was adopted recommending the appointment of a full time school physician. Dr. H. M. Kay of Madison talked on conditions in Germany since the Armistice and was followed by Dr. J. C. Elsom who gave an interesting talk illustrated with lantern slides showing the remarkable work in reconstruction of disabled and crippled soldiers at Camp Merritt.

The annual meeting and dinner of the Dane County Medical Society was held at the Madison Club Tuesday evening, December 2, at 6:30 P. M. The following officers were re-elected for the ensuing year: W. H. Sheldon, M. D., president; W. D. Stovall, M. D., vice-president; H. P. Greeley, M. D., secretary-treasurer.

In a general business discussion which followed, the sense of the society seemed to be unanimous in the advisability of making a general rise in the scale of fees which obtain in Madison at the present time.

Dr. Bardeen, who had recently returned from a tour of inspection of Medical Schools in the Northwest, gave a very interesting resumé of conditions of medical education in the northwestern states. Now that there are three applicants for each position in most of the eastern schools, the question of educating physicians for work in western states must be settled by those states and necessary provisions made to give them adequate training at home.

Dr. Gilbert Seaman of Milwaukee, University Regent, was the guest of the Society. He spoke on the subject of "Better Medical Education."

The following amendment to the By-Laws was adopted: "Any physician who wilfully fails or refuses to comply with local or State laws for the prevention of disease, including especially the provisions in such laws requiring the reporting of cases of communicable disease, is guilty of gross misconduct and under Act VII of Chapter I of the By-Laws, shall be liable to censor, suspension or expulsion."

H. P. Greeley, M. D., *Secretary.*

FOND DU LAC COUNTY

At a meeting of the Fond du Lac County Medical Society held November 12, at the Palmer House, about sixty physicians were in attendance. The meeting opened with a banquet, after which Dr. Archibald Church of Chicago spoke on "My Thirty-five Years Retrospect in the Treatment of Nervous Diseases." This subject proved exceptionally interesting to the Fond du Lac physicians as Dr. Church was born and raised in that city.

D. N. Walters, M. D., *Secretary.*

MARATHON COUNTY

The Marathon County Medical Society held its annual meeting, December 2, 1919, at Wausau. The following officers were elected for the coming year: Dr. R. W. Jones, president; Dr. A. N. Harter, vice-president; Dr. M. L. Jones, secretary-treasurer; Dr. L. E. Spencer, delegate; Dr. A. B. Rosenberry, alternate; and Dr. D. T. Jones, censor.

F. H. Frey, M. D., *Secretary.*

MILWAUKEE COUNTY

The regular meeting of the Milwaukee County Medical Society was held at the Health Service Building, 558 Jefferson Street, on Friday evening, November 14, at 8:30 P. M. Dr. L. M. Warfield read a very interesting by Electrocardiogram," with lantern slide illustrations. paper on "Certain Irregularities of the Heart as Shown

The annual meeting and election of officers of the Milwaukee County Medical Society was held at the Hotel Pfister, December 11. Dinner was served at 7:00 P. M., after which District Attorney W. C. Zabel addressed the society on "The Medical Expert as a Witness."

Daniel Hopkinson, M. D., *Secretary.*

MILWAUKEE MEDICAL SOCIETY

The Milwaukee Medical Society held its regular meeting, November 11, in its rooms in the Colby-Abbott Building. The following papers were read, "Report of a Case of Hemophilia with Joint Involvement," By Dr. J. B. Youmans, and "Tuberculosis in Pregnancy," by Dr. Carl Davis.

At a meeting of the Milwaukee Medical Society held Tuesday, December 9, the following program was given, "Researches in Typhoid Fever," by Dr. Edwin Henes, and "Cholecystectomy," by Dr. J. L. Yates, the latter paper being illustrated with lantern slides. A meeting of the Council was held and a report of the nominating committee presented.

Oscar Lotz, M. D., *Secretary.*

PIERCE COUNTY

A meeting of the Pierce County Medical Society was held at River Falls, December 18. Dr. Oleson, of the Federal Health Service, Dr. Henika of the State Commission on Venereal Disease, and Dr. Stovall of the State Laboratory of Health gave very interesting and instructive talks on public health topics.

Rolla Cairns, M. D., *Secretary.*

ROCK COUNTY

A meeting of the Rock County Medical Society was held at the county asylum, November 25. Dr. Grinker of Chicago, specialist in nervous and mental diseases, gave an interesting talk. A banquet was served at which eighty physicians and their wives were present.

E. B. Brown, M. D., *Secretary.*

WAUPACA COUNTY.

A meeting of the Waupaca County Medical Society was held in Clintonville, November 19. Dr. C. M. Griswold of Clintonville read a very interesting paper on "Focal Infection," which was later discussed by the members of the society. A resolution was adopted, protesting against the tubercular survey of the county by the county nurse, and sent to the state board of health and to the county board. Resolutions were also drawn up and adopted on the death of Dr. Gygi of Big Falls.

H. A. Jefferson, M. D., *Secretary.*

WEST WISCONSIN DISTRICT MEDICAL SOCIETY

The sixteenth annual meeting of the West Wisconsin Medical Society was held in Eau Claire, November 20, attended by physicians from all over the western section of Wisconsin. Clinics were held at the hospitals in the morning, and the following men gave a very interesting program in the afternoon at the Public Library: Dr. W. D. Stovall, University of Wisconsin; Dr. Arthur Strachauer, University of Minnesota; Dr. J. L. Yates, Marquette University; Dr. Albert H. Byfield, University of Iowa; Dr. W. C. McCarty, Mayo Clinic, and Dr. J. C. Litzenberg, University of Minnesota. A banquet was held in the evening at the Elks' Club.

E. E. Tupper, M. D., *Secretary.*

WINNEBAGO COUNTY.

The Winnebago County Medical Society held its regular meeting, November 6, at Oshkosh, which the medical societies in the Fox River Valley were invited to attend. The meeting was opened with a banquet at the Hotel Athearn, after which Dr. W. A. Evans of Chicago gave an interesting lecture on public health.

H. W. Morgenroth, M. D., *Secretary.*

CORRESPONDENCE

AN APPEAL FOR HUMAN EMBRYOLOGICAL MATERIAL.

BY WILLIAM W. GRAVES, ST. LOUIS.

In 1906 I observed certain malformations of the human shoulder-blade, and in contributions to current literature I have given them the collective name—"the scaphoid type of scapula," and pointed out some of its hereditary, clinical and anatomical significance.

Probably the most important observation connected with this type of scapula in man is its age incidence, that is to say, it occurs with great frequency among the young and with relative infrequency among the old. There appear to be two possible explanations of this fact: either

A—One form of shoulder-blade changes into the other during development and growth,

or

B—Many of the possessors of the scaphoid type of scapula are the poorly adaptable, the peculiarly vulnerable, the unduly disease susceptible—the inherently weakened of the race.

I have attempted to answer these questions by seeking evidence in various directions and one of the most important of these has been a study of intrauterine development of the shoulder-blades. My investigations in this direction have been limited by the material at my disposal, which has been inadequate for a definite solution of this phase of the problem. I am, therefore, appealing to physicians for fetuses in any and all stages of human development.

It is desired that the material, as soon as possible after delivery, be immersed in 10% formalin in a sealed container, and be forwarded to my address, 727 Metropolitan Bldg., charges collect. Due acknowledgment will be made to those forwarding material.

NEWS ITEMS AND PERSONALS.

The Radium Association of Wisconsin, Incorporated, was granted a charter by the Secretary of State on December 9th. According to the articles of incorporation the objects and purposes of the Association are:

To make Radium available for the treatment of diseases in the city of Milwaukee and the state of Wisconsin.

To make investigation of possible additional Therapeutic indications for Radium.

To establish and maintain a Library of the literature on Radium-Therapy.

To acquire, by lease, own, purchase and hire, and to rent Radium and to extend its use upon such conditions and limitation as the Board of Directors may determine.

To rent Radium to the members of the Association and to such other physicians and surgeons as may apply for the same and are willing to conform to such rules and regulations as may be adopted, in order to insure scientific indications, application and observations and at such rates as the Board of Directors may from time to time determine.

To acquire, build, conduct, equip, lease, maintain and operate one or more offices, laboratories or institutions for the care and treatment of the sick and infirm by Radium and other approved medical and surgical means for a charge or without a charge as may be determined by the Board of Directors.

The capital stock of the corporation is $20,000.00, consisting of 200 shares of the par value of $100.00, *Fully Paid and Non-assessable.*

The incorporators are as follows: H. A. Sifton, C. A. Evans, J. P. McMahon, A. W. Gray, Ernst Copeland, H. B. Hitz, E. A. Fletcher, H. M. Brown, G. V. I. Brown, C. H. Davis, J. L. Yates, F. J. Gaenslen, P. F. Rogers, O. H. Foerster, R. J. Sayle, G. A. Carhart, J. H. McGov-

The Natural Coagulant of Blood

Thromboplastin Solution (Armour) is a specific hemostatic and is made from the brain substance of Kosher killed cattle. This brain tissue of cattle killed according to Mosaic law is uninjured and by the Armour process this "principle" which causes coagulation is extracted and supplied to the medical profession in standardized and sterilized form.

Thromboplastin Solution (Armour) is useful in the treatment of hemorrhage especially that from oozing surface, scar tissue and the nose and throat.

25 c. c. vials, in dated packages.

Pituitary Liquid (Armour) is the most trustworthy solution of the Posterior Pituitary Substance. It is free from preservatives and is standardized physiologically by the Roth method. ½ c. c. and 1 c. c. ampoules.

Thyroids (Armour) runs uniformly 0.2 per cent organic iodin in Thyroid combination. Thyroid Tablets (Armour) ¼, ½, 1 and 2 grain. When Thyroids is indicated specify **Armour's.**

We offer all the endocrine gland preparations in powder and tablets. All drying of the glands is done in vacuum ovens at a low temperature. This insures uninjured therapeutic value.

CIRCULARS ON REQUEST

LABORATORY PRODUCTS

ARMOUR AND COMPANY

CHICAGO

If as much thought were put on the investing of our savings as we give to making them, how rich this World would be.

Why do you not put a part of your savings into the seven per cent preferred stock of the

Palmolive Company

which we are now offering in shares of $100.00 each at par and dividends to yield **7%**, and so be assured of good security and a high income return on your savings.

MORRIS F. FOX & CO.

INVESTMENT SECURITIES

FIRST WISCONSIN NATIONAL BANK BUILDING

MILWAUKEE, WISCONSIN

THIS STOCK MAY BE PURCHASED ON OUR PARTIAL PAYMENT PLAN

ern, J. J. McGovern, W. E. Grove, Daniel Hopkinson.

Other physicians and surgeons throughout the State of Wisconsin will be invited to become members of the Association.

The city hospital of Madison is seeking a total subscription of $250,000. Mrs. Anna M. Vilas, widow of the late Colonel Wm. F. Vilas, has contributed $10,000 to the fund and nine others have contributed $1,000 each.

Dr. Henry O. McMahon has announced the opening of offices at 410 Jefferson Street, Milwaukee. His practice will be limited to the diseases of children.

Organization of a physicians' and surgeons' club at Beloit, urgent need of a city hospital, and revision of the schedule of fees for the coming year were discussed at a meeting of the Beloit physicians and surgeons, November 19. Cooperation to give the best service was the keynote of the meeting.

Dr. D. W. Lynch has returned from service overseas and re-opened his Sanatorium at West Bend.

Dr. G. E. Hubar has opened offices in Rhinelander for the practice of medicine and surgery. Dr. Hubar has recently returned from service, prior to entering which he practiced medicine at Tuscola, Illinois.

Work on the new building of the Ashland General Hospital is progressing rapidly and it is expected that the building will be ready to receive patients the first of the year.

Dr. Robert W. Blumenthal, Milwaukee, has removed his offices from the Caswell Block to the M. & M. Bank Building.

Captain Wm. H. Hecker recently arrived in Beloit after an absence of eighteen months in the medical corps. Dr. Hecker entered the service March 28, 1918, and for the past eleven months has been on the staff of the attending surgeons for the District of Paris with headquarters in the Provost General's office, Paris.

A new Milwaukee County Dispensary was officially opened. November 29, and occupies the entire third floor of the Saxe Building, Fifth and Grand Avenue. The purpose of the dispensary is to place the best medical treatment within the reach of persons who would otherwise be unable to procure it. Full and careful medical records will be kept of the treatment of all patients. Students will be admitted to any department to receive instruction from any medical school the standing of which is satisfactory to the board of administration. The dispensary will consist of nine departments, each department operating separately under the supervision of one clinic head.

Dr. A. L. Beier of Chippewa Falls has been appointed by the state board of control as superintendent of the State Home for the Feeble-Minded to succeed Dr. A. W. Wilmarth, resigned. Dr. Beier has been assistant superintendent of the institution for the past ten years.

Captain E. E. Tanner, who has been serving in Red Cross hospitals in Russia since May, 1919, is on his way home and is expected back in Milwaukee the latter part of December.

Dr. H. W. Kinderman, Ashville, North Carolina, arrived in Milwaukee, November 20, to assume his duties as full-time physician in the medical department of the Wisconsin Anti-Tuberculosis Association. Dr. Kinderman was formerly connected with the Trudeau Tuberculosis Sanatorium, Saranac Lake, New York, and was also engaged in special tuberculosis work during his service in the army.

Dr. B. N. Robinson, formerly of Prairie du Chien, has entered into partnership with Dr. H. J. Westgate of Rhinelander. Dr. Robinson recently returned from service as a captain in the medical corps, 85th Division.

Dr. J. J. Brook has opened an office in the Caswell Building, Milwaukee, his practice being limited to diseases of the eye, ear, nose and throat.

Dr. J. H. Lee of Iola has removed to Madison where he will practice his profession. He is succeeded at Iola by Dr. A. R. Bellerue, recently house physician and surgeon in the Minneapolis City hospital, and lately of Blair, Wisconsin.

Dr. D. L. R. Notbohm, formerly of Dousman, has opened offices in Jefferson. Dr. Notbohm has recently returned from service as a captain in the medical corps.

A free tuberculosis clinic was held at Oconto, November 24 and 25, at which ex-soldiers and children were examined. Two physicians from the Wisconsin Anti-Tuberculosis Association were present to conduct the examinations, assisted by the county physicians and the county nurse.

Dr. E. A. Miller of Clintonville left for Chicago, November 10, where he will take a three months' postgraduate course in the treatment of diseases of the nose and throat.

John Till, the "plaster artist," of Turtle Lake, will incorporate and employ regular doctors in order to keep himself out of trouble with the law.

Dr. A. N. E. Merten has opened a diagnostic laboratory in the Merrill Building, Milwaukee.

Dr. A. G. Maercklein of Exeland has removed to Couderay, Sawyer County, to take up practice.

DEATHS.

Dr. G. A. Barker, Menomonie, died suddenly, November 16, 1919, at his home. Dr. Barker was born in 1855 and was a graduate of the Bowdoin Medical College, Portland, Maine.

MARRIAGES

Dr. Harry Shearer, Edgerton, to Miss Norma Woodhouse, Bloomington, October 25, 1919.

DELEGATE TO COUNCIL ON MEDICAL EDUCATION A. M. A.

L. F. JERMAIN, Milwaukee.

DELEGATE TO COUNCIL ON HEALTH AND PUBLIC INSTRUCTION A. M. A.

G. WINDESHEIM, Kenosha.

COMMITTEE OF SOCIAL INSURANCE.

A. W. GRAY, Milwaukee, *Chairman.*
C. H. LEMON, Milwaukee.
G. E. SEAMAN, Milwaukee.
M. R. WILKINSON, Oconomowoc.
G. WINDESHEIM, Kenosha.
W. F. ZIERATH, Sheboygan.
H. E. DEARHOLT, Milwaukee.

COMMITTEE ON HOSPITALS.

L. F. JERMAIN, Milwaukee, *Chairman.*
L. E. FAZEN, Racine.
F. S. WILEY, Fond du Lac.
J. V. R. LYMAN, Eau Claire.
F. G. CONNELL, Oshkosh.

COMMITTEE ON HISTORICAL RESEARCH.

HOYT E. DEARHOLT, Milwaukee, *Chairman.*
T. J. REDELINGS, Marinette.
S. S. HALL, Ripon.
C. R. BARDEEN, Madison.
HORACE M. BROWN, Milwaukee.

SECTION COMMITTEES.

Medical Section.

L. F. JERMAIN, Milwaukee, *Chairman.*
C. R. BARDEEN, Madison, *Secretary.*

Surgical Section.

W. CUNNINGHAM, Platteville, *Chairman.*
DANIEL HOPKINSON, Milwaukee, *Secretary.*

Eye, Ear, Nose and Throat Section.

FRANZ PFISTER, Milwaukee, *Chairman.*
CHAS. ZIMMERMAN, Milwaukee, *Secretary.*

TRANSCRIPT OF PROCEEDINGS OF THE HOUSE OF DELEGATES, STATE MEDICAL SOCIETY OF WISCONSIN,

SESSION TUESDAY, SEPTEMBER 30th, 1919, 8 p. m.
in
THE GOLD ROOM, HOTEL WISCONSIN,
Milwaukee, Wisconsin.

Registration.

Meeting called to order by the President, DR. D. J. HAYES, Milwaukee.

PRESIDENT: I first want to inquire whether all delegates present have registered and received the official badge. If not, you are requested to register with the Secretary.

The first business before the House of Delegates this evening is the report of the Committee on Public Policy and Legislation, Dr. Edward Quick, Chairman. As Dr. Quick is not present, we will pass to the report of the Committee on Publication, Dr. Oscar Lotz, Milwaukee, Chairman.

The report of the Committee on Publication was presented by the Chairman, Dr. Oscar Lotz, Milwaukee, as follows:

REPORT OF PUBLICATION COMMITTEE.

To the Members of the State Medical Society of Wisconsin.

GENTLEMEN:

During the past year there have been very few changes of importance in the publication of the State Medical Journal.

Under the able leadership of the Editor Dr. Rock Sleyster, the journal has been making its appearance regularly and always in splendid form—filled with real worth-while reading matter from cover to cover.

An innovation introduced during the past year is that of the clinical department. In this department the editors Dr. J. S. Evans, of the Medical Department of the University of Wisconsin, and Dr. L. M. Warfield of Milwaukee have been presenting complete case histories followed by discussions and reports of results of treatment. Histories of vague and difficult cases especially when accompanied by frank and open discussions are always of interest, and we feel that the members are to be congratulated upon this valuable addition to their Journal.

The managing editor's department has been under the careful direction of Dr. J. P. McMahon ever since the publication was taken over by the State Medical Society. The increased cost of publication has added some difficulties and worries to the managing editor, but with the ability and experience of Dr. McMahon, these have been more or less overcome.

A detailed report of the managing editor's office as prepared by Dr. McMahon follows.

Respectfully submitted,
OSCAR LOTZ,
Chairman Publication Committee.
September 8, 1919.

Oscar Lotz, M. D., Chairman,
120 Wisconsin St.,
City.

My dear Doctor Lotz:

Enclosed you will please find report showing the earnings, expenses, disbursements and circulation of The Wisconsin Medical Journal during the period from August 1, 1918, to August 1, 1919. In order to make the report

more readily comparable to the preceding report, your attention is respectfully directed to the following data:

Total earnings from Aug. 1, 1917, to Aug. 1, 1918	$3,676.07	
Dividend from Co-operative Medical Advertising Bureau	29.90	$3,705.97
Total earnings from Aug. 1, 1918, to Aug. 1, 1919	$3,925.60	
Dividend from Co-operative Medical Advertising Bureau	48.20	$3,983.80
Total expenses from Aug. 1, 1917, to Aug. 1, 1918		5,222.33
Total expenses from Aug. 1, 1918, to Aug. 1, 1919		5,467.77
Total collections and money received from The State Medical Society from Aug. 1, 1917, to Aug. 1, 1918		5,090.02
Total collections and money received from The State Medical Society from Aug. 1, 1918, to Aug. 1, 1919		4,953.03
Total uncollectable accounts charged off in the report covering the period from Aug. 1, 1917, to Aug. 1, 1918		375.74
Total uncollectable accounts charged off in the report covering the period from Aug. 1, 1918, to Aug. 1, 1919		15.00
Total circulation to members of The State Medical Society from Aug. 1, 1917, to Aug. 1, 1918		22,220
Total circulation to members of The State Medical Society from Aug. 1, 1918, to Aug. 1, 1919		21,724
Cost of each copy forwarded to members of The State Medical Society from Aug. 1, 1917, to Aug. 1, 1918		9½c
Cost of each copy forwarded to members of The State Medical Society from Aug. 1, 1918, to Aug. 1, 1919		7⅓c

From the enclosed reports and from the above comparison it is seen:

That the earnings during the period from Aug. 1, 1918, to Aug. 1, 1919, exceeded those of the preceding year by $277.83, most of which is creditable to the advertising pages;

That expense items necessarily vary, and we were able to reduce the expenditures on postage, office supplies and miscellaneous items by approximately $125.00;

That, while there was nothing charged off for depreciation during the last year, $85.00 of the total expense of the preceding annual report was under this heading;

That there was an increase of $250.00 in the total printing bills, which item was advanced 20% January 1, 1919;

That the commissions for securing advertising contracts during the last year exceeded those of the preceding year by about $175.00—by way of explanation of this, have to state that, while we have secured an increased number of advertising contracts and while commissions are chargeable as expense immediately upon receipt of contracts, earnings on such contracts are not shown until the service is rendered from month to month;

That the circulation during the last year was about 500 less than during the period covered by the preceding report; and

That the cost of each Journal circulated to members of The State Medical Society was 2⅓c less during the last year than during the preceding year, which reduction is principally explained by the decrease in the amount charged off as uncollectable, the amount charged off for depreciation and the amount allowed as trade and cash discounts during the current year.

The principal difficulty which the Managing Editor experienced during the last year was the forwarding of copies so addressed that there would be some hope of their reaching the members in military service and in correcting the mailing roster after members had returned to their former locations or to new ones.

During the last few months a great many complimentary copies of French medical and allied scientific publications have been received, accompanied by the suggestion that the forwarders be placed on our exchange list, but, in keeping with the policy adopted three years ago to hold our complimentary list to the lowest possible limit, the suggestions have not as yet been acted upon.

In conclusion the Managing Editor records with regrets the recent resignation of Miss Lucy Goldbeck (now Mrs. E. J. Gottschalk) who served the Journal in the capacity of stenographer and bookkeeper from the date it was taken over by the State Society, until September 1st of the current year. No other office assistant could possibly have been more idealistic, conscientious or efficient in the discharge of her duties, or more loyal to the cause of Modern Medicine as interpreted by the Managing Editor's office and by the committee on public policy and legislation of the State Medical Society during the nine year period just terminated.

Respectfully submitted,

J. P. McMahon,
Managing Editor.

REPORT OF THE WISCONSIN MEDICAL JOURNAL.

PUBLISHING COST STATEMENT.

August 1, 1918, to August 1, 1919.

Income from publishing—

Advertising, gross charges	$3,890.80	
Less discounts	97.40	
Net income from advertising	$3,793.40	
Subscription	44.80	
Co-operative Medical Advertising Bureau surplus	48.20	
Total income from operation	$3,886.40	$3,886.40

Publishing expenses—

Printing	$2,800.57		
Salaries	1,380.00		
Commissions for securing advertising contracts	979.79		
Subscription	12.00		
Postage	245.45		
Cuts, drawings, etc.	10.26		
Office supplies and expenses	14.75		
Miscellaneous general expenses	24.95		
Total publishing expenses		$5,467.77	
Bad debt loss — uncollectable accounts		15.00	$5,482.77
Net cost of publishing the Journal			$1,596.37

For the information of the Members of the State Medical Society:

This deficit of $1.596.37 represents the cost to the State Medical Society of circulating 21,724 copies of the Journal, or about 7⅓c a copy.

THE WISCONSIN MEDICAL JOURNAL.

FINANCIAL STATEMENT.

August 1, 1918, to August 1, 1919.

Cash Balance August 1, 1918		$ 37.41	
Receipts:			
State Medical Society	$1,506.00		
Advertising	3,328.34		
Subscription	44.35		
Co-operative Medical Advertising Bureau surplus	48.20		
Halftones and Zinc etchings	26.14	$4,953.03	
			$4,990.44
Disbursements:			
Printing	$2,349.09		
Salaries	1,325.00		
Commissions	838.49		
Subscriptions	12.00		
Postage	245.00		
Office supplies and expenses	14.75		
Miscellaneous general expenses	26.95		
Halftones, zinc etchings, refund and State Medical Society inserts	61.59		$4,872.87
Balance on hand August 1, 1919			$ 117.57

Assets.

Office equipment	$ 175.13	
Cash in bank	117.57	
Accounts receivable	1,901.47	
Merchandise	42.12	$2,236.29

Liabilities.

Accounts payable	$1,306.88	
Credit balance on advertising accounts	61.25	$1,368.13
Assets exceed liabilities		$ 868.16

Respectfully submitted,

J. P. McMahon,

Managing Editor.

Dr. Oscar Lotz: I have had occasion to look over the report of Dr. McMahon, and it is at the present time on file at the office. On the insistence of Dr. McMahon the accounts are being audited at the present time, and I hope to be able to have the auditors' report before the meeting is over.

President: Gentlemen, the report of the Committee on Publication is before you, what will you do with it? Are there any remarks or motions? If not, we will pass on to the next number, the report of the Committee on Medical Defense, Dr. H. Reineking.

The report of the Committee on Medical Defense was then presented by Dr. H. Reineking, of Milwaukee, as follows:

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE.

A very complete resume of the entire work of the defense system of the society up to Sept. 1, 1918, was furnished by Dr. A. J. Patek, then Secretary of the committee, at our last annual convention and was printed in full in the *Journal*. The present report will therefore present no statistical matter except as it pertains to the twelve months ending August 31, 1919.

It is a pleasure to be able to report that during this period comparatively few cases of damage suits have been brought to our notice, and probably at least half of these of such character that little or nothing will be heard of them in the future. Equally satisfactory is the circumstance that during this entire year not one dollar in damages was awarded in any case in which one of our members was on trial, while, on the other hand, some awards previously made in trial courts, were reversed by the Supreme Court.

If we look for an explanation of the apparent decrease in the number of these cases during the last three years, I believe it is to be found in the fact, clearly outstanding from our annual reports, that since the establishment of our defense system the bringing of malpractice suits has been a rather unprofitable business; and it is unprofitable because of organization and preparedness on our part, and the fact that by reason of these we are able to secure the services of most able and experienced legal talent.

If there is still any doubt as to the wisdom of continuing the present system, the experiences of the last three years should suffice to dispel it.

During the term beginning Sept. 1, 1918, and ending August 31, 1919, notices of twelve threatened or actual cases were received. The alleged causes of action were:

Improper treatment of fracture	1
Improper treatment of abscess	1
Improper tonsillectomy	1

Improper administration of drug..... 1
Improper management of obstetric case..... 1
Leaving gauze in abscess..... 1
X-ray burn 1
Improper performance of operation..... 1
Not known at date of report..... 4

Several of these have already been disposed of without the payment of damages; several others have not been heard of since first notice. Some of them have been mere threats. Most of the cases holding over from former years have not been heard from. Many of these have not been heard from at all during the entire year, and some not for the previous year. Several cases have been dismissed or non-suited. At least one verdict awarding a large sum to the plaintiff was reversed by the Supreme Court. No expense was incurred except for attorney's fees and traveling expense for one committee member. The attorney's fees include of course, the attorney's expense, and that amounts to quite a good deal in some cases.

Respectfully submitted,

H. Reineking,
Sec'y Med. Defense Com.

President: What will you do with this report, Gentlemen? If there are no remarks the report will be received as given.

The next business before the House of Delegates is the election of a Committee of Twelve on Nominations, one from each district. I will ask the Secretary to read the names of the counties in the districts, and nominations may then be made from each district.

Secretary Rock Sleyster read the names of the counties comprising each district, and a member from each district was on motion duly seconded and carried, elected as a member of the Nominating Committee of Twelve.

President: If the gentlemen who have just been elected members of the Nominating Committee will get together tonight after this meeting adjourns and perfect their organization, you will then have all day tomorrow to consider the best available men in the State Society for election to office the coming year. Bring in your report at the session on Thursday morning at 8 o'clock.

I will now call for the report of the Committee on Health and Public Instruction, Dr. Spencer Beebe, Chairman. I am informed that Dr. Beebe will be here tomorrow, so we will pass on to the next order of business, and I will call for the report of the Committee on Medical Education, Dr. C. R. Bardeen, Madison, Chairman. Is Dr. Bardeen present?

Secretary Rock Sleyster: Dr. Bardeen is not here, but Dr. Jermain, a member of that committee, is present tonight.

President: Dr. Jermain, do you wish to make the report?

Dr. L. F. Jermain, *Milwaukee*: Dr. Bardeen has written this report as printed in the Hand Book, but I can read it if it is the wish of the House of Delegates to have me do so.

President: I think you had better read the report Dr. Jermain.

The report of the Committee on Medical Education was read by Dr. L. F. Jermain, Milwaukee, as follows:

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

The most important event in the field of medical education in Wisconsin during the past year is the completion of the $1,000,000 endowment for the medical school of Marquette University. The Carnegie Institute offered $333,333 toward this endowment provided the balance be raised by popular subscription. In spite of the unfavorable conditions produced by the war the required sum and more has now been raised. The total sum is now above $1,000,000. It is hoped that this represents but the beginning of adequate endowments for the carrying out of the high aims in medical education which this school has adopted.

During the past session of the legislature authority was granted the Board of Regents to make plans for the establishment of a complete medical course at the State University. It will take some years to develop these plans. It is obvious, however, that liberal support through private endowments and state appropriations is an imperative need for the future of medicine in Wisconsin. The trend of medical education is in the direction of medical schools of high grade with the number of students in each school limited to insure thorough personal instruction. The limitation in the number of students admitted to good schools outside the state makes it necessary to develop to the utmost the resources for medical education within the state.

The two Wisconsin medical schools, like the medical schools and other university departments throughout the country, suffered in effectiveness during the first part of last year through the poorly organized Students Army Training Corps. This, however, was but a temporary inconvenience and seems to have been less disagreeable in our schools than in some others. It demonstrated, however, we believe, that medical education thrives best when it enjoys a considerable amount of independence. The recent trend toward standardization of requirements must not be allowed to go too far. A centralized national control of medical education, if one could be worked out, would probably be detrimental to the best interests of medicine.

C. R. Bardeen.

President: The next business before the House of Delegates is the report of the Committee on Necrology, Dr. Rock Sleyster, Chairman.

Secretary Rock Sleyster: Mr. President and Gentlemen. I have nothing to report in addition to the list of deaths as published in the pamphlet, unless it would be to call attention to the men who lost their lives in the Service. That information should have been indicated in the report, and was not, because it was not completed at the time the report was written. Six members of the Society died in the Service, namely: Drs. F. M. Hawley, Mercer; E. I. Moquin, Fairwater; W. T. Murphy, Waukesha; L. J. Phillips, Weyerhauser; W. A Powless, West Depere, and A. J. Provost, Oshkosh.

REPORT OF THE COMMITTEE ON NECROLOGY.

To the House of Delegates:

The following is the report of the Committee on Necrology, including deaths reported to September first. Names of members of the State Medical Society are printed in italics.

Aldrich, L. I. ..... Black Earth
Armstrong, L. G. ..... Boscobel
Ashmun, J. ..... Rural
Bowe, G. C. ..... Cleveland, Ohio
Cassidy, W. W. ..... Durand
Crosby, G. W. ..... Sheboygan
DeBoth, E. R. ..... Green Bay
Dernehl, P. H. ..... Milwaukee
Devorak, Lieut. A. ..... Casco
Doyle, J. F. ..... Santa Anna, Cal.
Dube, F. De S. ..... Centralia
Evans, N. C. ..... Mt. Horeb
Evans, T. W. ..... Madison
Falge, Louis ..... Manitowoc
Fitzgibbon, James ..... Racine
Foster, A. M. ..... Kaukauna
Freeman, J. D. ..... Topeka, Kans.
Frost, Carrie ..... Almond
Gauvreau, E. T. ..... Superior
Gillick, L. D. ..... Pulaski
Greiner, H. O. ..... Freemont
Grey, George ..... Baltimore, Md.
Hahn, A. F. ..... Eau Claire
Haskell, M. W. ..... Richland Center
Hawley, Lieut. F. M. ..... Mercer
Hayden, Albert ..... Shullsburg
Hoermann, F. B. ..... Watertown
Hopkins, W. B. ..... Cumberland
Horton, C. S. ..... Edgerton
Keller, Sebastian ..... Spokane, Wash.
Kempster, Walter ..... Milwaukee
Krebs, W. D. ..... Green Bay
Kutchin, H. L. ..... Columbus, Ohio
Lincoln, W. S. ..... Dodgeville
Marchessault, J. A. ..... Ashland
Marriner, Robt. G. ..... Menomonie
McKay, A. F. ..... Pueblo, Colo.
Mead, S. W. ..... Montara, Cal.
Mills, N. K. ..... Odanah
Moquin, E. I. ..... Fairwater
Murphy, Lieut. W. T. ..... Waukesha
Nussle, E. E. ..... Chippewa Falls
Obertin, C. A. ..... Union Grove
Pflueger, J. H. ..... Holmen
Phillips, L. J. ..... Weyerhauser
Powless, Lieut. J. A. ..... West Depere
Rice, R. H. ..... Delavan
Schallern, O. ..... Ripon
Schmidt, J. A. ..... Hopkinsville, Ken.
Smedal, Greggar ..... West Salem
Squire, W. W. .....
Stiles, F. P. ..... Sparta
Stormont, J. C. ..... Viola
Wagner, Karl ..... Milwaukee
Wall, H. J. ..... Richland Center
Wells, A. V. ..... Fennimore

Respectfully submitted,

ROCK SLEYSTER,

Editor, Chairman.

PRESIDENT: If there are no remarks to be made we will accept the report of the Committee as printed.

The next number is the report of the Committee on Social Insurance, Dr. A. W. Gray, Chairman.

DR. H. D. LUDDEN, Mineral Point: Mr. Chairman, with regard to the report that was last presented, if it is not out of order at this time, I would say that I think the Society ought to do something in the way of a memorial to be sent to the families of these doctors who lost their life in the Service. I personallytheir lives in the who was in my Company at Fort Riley, and dressed Powless when he was killed on the Ayr River in my Battalion Station. Powless after death was given a D.S.C. His work was very remarkable, with the 308th Infantry famous for its lost Battalion. He was as you know, an Indian, and was very stoical. He went up and got out Dr. McKibbon, from Maryland, who received a fatal wound, up above the infantry. Powless went up and brought him back. Not a murmur did Powless utter though suffering intensely from a shell wound of the chest.

I should like to make a motion that some sort of appreciation of the services of these men who died in the Service be sent to their families.

DR. C. E. NYSTRUM, Medford: Mr. Chairman, I wish to amend that motion to the effect that the President appoint a Committee of Three to draw up resolutions to be sent to the families of these doctors who died in the Service.

Motion seconded.

DR. EDWARD EVANS, La Crosse: Mr. Chairman, if the maker of that motion, and the seconder of it would agree, I think it would perhaps be better that the President and Secretary, as representing the State Medical Society, be named to act on that committee.

PRESIDENT: Do you withdraw your motion, Dr. Nystrum?

DR. NYSTRUM: I withdraw my motion.

PRESIDENT: Gentlemen, you have heard the motion, that the President and Secretary be instructed to draw up suitable resolutions to be sent to the families of those who died in the Service. All those in favor of this motion will manifest it by saying "aye."

Motion unanimously carried.

PRESIDENT: Gentlemen, we will now listen to the report of the Committee on Social Insurance, Dr. Gray, Chairman.

DR. A. W. GRAY, Milwaukee: Mr. Chairman and Gentlemen. The Committee on Social Insurance has not been active this year so far as I know. Though I was appointed chairman of the committee, as I understand it, for some reason or other I received no notice of the appointment, being in the Service, and consequently have known very little about what was going on.

The interest centered in the investigation and reports made by the special committee of the state legislature in this matter. The majority report was signed by all of the members except the Socialist, who submitted a minority report. The minority report was favorable. The majority report endorsed the demand for improved health conditions, but only through extension of power and in support of existing machinery. It was our conviction and conclusion that the minority report would attract no favorable attention outside of the Socialist party. One statement alone was sufficient to kill the proposition, namely, that the idea of compulsory health insurance was "made in Germany."

In the opinion of your committee, state health insurance holds for the present and immediate future nothing more than an academic interest. There will be no session of the legislature during the coming winter. So far as it is safe to predict anything these days, it seems safe to say that state health insurance at this writing holds neither threat nor promise for the medical profession.

Your committee, therefore, respectfully recommends its own discharge.

PRESIDENT: The next business before the House of Delegates is the report of the Advisory Hospital Committee, Dr. L. F. Jermain, Milwaukee, Chairman.

DR. L. F. JERMAIN, Milwaukee: Mr. Chairman, before reading the report, I want to say that the Hospital Committee held a meeting this afternoon, and has arranged for an inspection of those hospitals that now have internes, or wish to employ internes in the future.

The report on these hospitals will be made by the first of the year to the Council on Medical Education.

REPORT OF ADVISORY HOSPITAL COMMITTEE.

Early in 1917 the Council on Medical Education began its third survey of hospitals for the purpose of revising its list of those offering acceptable internships for medical graduates.

Data concerning Wisconsin hospitals which stated that they had, or desired internes, and which had supplied information concerning their ability and willingness to train them, has been forwarded to the Advisory Committee. They are the following:

St. Joseph's Hosiptal, Ashland; St. Mary's Hospital, Green Bay; La Crosse Lutheran Hospital, La Crosse; St. Francis Hospital, La Crosse; Madison General Hospital, Madison; Columbia Hospital, Milwaukee: Milwaukee Children's Free Hospital, Milwaukee; Milwaukee Hospital, Milwaukee; Mt. Sinai Hospital, Milwaukee; St. Joseph's Hospital, Milwaukee; St. Mary's Hospital, Milwaukee; Waldheim Park Sanitarium, Oconomowoc; St. Mary's Hospital, Oshkosh and Milwaukee County Hospital, Wauwatosa.

Because of a misunderstanding a number of Wisconsin hospitals which desire internes and which ought to be acceptable have neglected to supply the required information and fail to appear on the list.

Your committee is about to begin an inspection of the hospitals of this state. Inspection blanks Form F have been supplied and will be used in securing the necessary information.

In revising the list all hospitals desiring internes will be arranged in three groups, as follows:

Group 1—General hospitals.

Group 2—Special hospitals.

Group 3—State or other hospitals for nervous and mental, or insane patients. Under each group the hospitals will be listed as follows.

Class A—Hospitals that without question are in position to furnish an acceptable training for internes in accordance with the standard of essentials.

Class B—Doubtful cases, or hospitals which are deficient in certain important particulars, but which may be capable of furnishing acceptable interneships.

Class C—Hospitals which without question are not capable of furnishing acceptable interneships.

In group 4 will be placed all hospitals which do not desire, or make use of internes. According to the character of their buildings, equipment, management, system of treatment, staff, etc., they will be classified as A, excellent; B, good; C, fair; D, poor; E, bad.

Your committe desires the hearty co-operation and assistance of the members of the State Medical Society in this important work.

Respectfully submitted.

LOUIS F. JERMAIN,
Chairman.

L. E. FAZEN,
F. S. WILEY,
J. V. R. LYMAN,
F. G. CONNELL.

PRESIDENT: Are there any remarks relative to this report

DR. EDWARD EVANS, La Crosse: I would ask Dr. Jermain if that inspection means inspection according to this blank form F, or will they be inspected?

DR. L. F. JERMAIN, Milwaukee: They will be inspected. This form F is only to be filled out by an inspector and not filled out by the hospital.

PRESIDENT: Are there further remarks upon this report? This is quite an important report for those connected with hospitals.

DR. C. E. NYSTRUM, Medford: What are the requirements of a class A hospital for an interne? What qualifications are necessary to place the interne in class A?

DR. JERMAIN: That is a pretty difficult matter to go into here at this time. Of course there is a great deal

that goes to make up an acceptable hospital for interneship, and in general terms it means simply that the Council on Medical Education must have the assurance that the training given to an interne in that hospital is such that it will satisfy the requirements. That of course embraces the necessary amount of equipment in the hospital, proper laboratories, a hospital in which general training can be obtained. The hospital must, of course, have a surgical service, medical service, and an obstetrical service, at least the important services; and, more important even than equipment and laboratories will probably be the staff organization of that hospital, whether or not there are men connected with that hospital who will take it upon themselves to be responsible for the training of the interne. After all, equipment and buildings means little when it comes to training an interne. You must have a staff that are willing to undertake this training, and who can be made responsible for it, and who will properly use the equipment in order to insure the best service to the patient.

PRESIDENT: If there are no further remarks on this subject, we will pass on to the next report, which is the report of the Committee on Historical Research, Dr. H. E. Dearholt, Milwaukee, Chairman.

DR. H. E. DEARHOLT, Milwaukee: Mr. Chairman and Gentlemen. In spite of the fact that this report is printed in the Hand Book, I do not suppose that many have read it, and inasmuch as I desire to bring out one or two points in connection with this report, I am going to read it.

REPORT OF COMMITTEE ON HISTORICAL RESEARCH.

In spite of the fact that during the past two years more Wisconsin medical history has been *made* than in any other two years, no progress worth mentioning has been made in the specific *recording* of it. The assurance of the Chairman of the Committee at the meeting of the last House of Delegates that he was utterly unqualified and even possessed of many positive disabilities for the work of an historian has once more been demonstrated absolutely.

There remains no question but that there is every reason for persistent and consistent effort in recording and publishing the history of Wisconsin Medicine. The present committee—due largely if not entirely to the incompetence of the Chairman—is disqualified. The appointment of an entirely new committee, or at least a new chairman, is so obviously needed that any other course is not again to be thought of.

At the same time the House of Delegates should recognize the fact that under the most favorable circumstances historical research is costly in money as well as in time, energy and enthusiasm. While the Society can not purchase the three latter necessities outright it can and should make generous appropriations for the purpose of conserving these three.

It is proposed, therefore, that whatever funds are made available be expended in purchasing a specific amount of the time of some physician or other worker, preferably a professional writer, with a bent for this type of work. The committee should be chosen with the idea that its function shall be that of laying out the program and keeping only a general supervision of the work.

On account of the difficulty of carrying on satisfactory negotiations by mail correspondence (a difficulty especially marked among medical men) it is recommended that the new committee be appointed among men who reside sufficiently close together to permit a quorum to be present at meetings which should be held at frequent intervals.

Respectfully submitted,

H. E. DEARHOLT,

Chairman.

DR. H. E. DEARHOLT, Milwaukee: Gentlemen, this is my own report, and has never even been presented to the other members of the committee.

CHAIRMAN: Are there any remarks on this report of the Committee on Historical Research?

DR. H. GILBERT, Madison: Mr. President, I would ask whether there has been any effort at all made toward research work. That question is prompted by a statement made in the first sentence of the report, that in the last two years more Wisconsin medical history has been made than ever before, and apparently no history is recorded.

SERTETARY ROCK SLEYSTER: Mr. President and Gentlemen: I would say that we have in the files of the Secretary's office a sufficient amount of material to write a fairly good history of Wisconsin medicine. We have the minute books of the State Society. They go back to the first meeting, which I think was held at Mineral Point as far back as 1845. It would be quite a job for anyone to go through these records and get such a history in shape for publication. I have been particularly careful since the first signs of war to keep in the records of the Society everything that would be valuable in the writing of a history of the Wisconsin profession during the war period. Every physician in the state has been most carefully card indexed, and all the information possible pertaining to him has been collected and recorded thereon. We have the complete Service records of a great many of the men, and it would not require a great deal of additional work to collect the balance of those records. However, it seems to me that someone who is a genius in writing matters of this kind should be interested in the matter, and be given the material which is at hand to work with and whip into shape. We could give an entire number of the *Wisconsin Medical Journal*, if necessary increasing the size of it to two or three times its present size, and publish this, so as to make it a matter of permanent record. The whole matter simmers down to the question of getting the right man, a man who has the energy and ability to go ahead with the work, and I think this House of Delegates should empower the officers of the State

Medical Society to expend a certain amount of money, possibly limiting them to $500, to get this work out, and possibly continue this same Committee, or appoint a new committee, empowering and instructing them to find someone who will do this work and do it now before this history is lost or forgotten.

PRESIDENT: I think, Gentlemen, that this is a very important matter, and that you ought to take some action on it at the meeting this evening. Has anyone any further suggestion to make?

DR. C. E. NYSTRUM, Medford: I will make a motion, Mr. President, that the officers of this Society be empowered to employ an expert writer of the kind needed, and also to appropriate for such expense, of the funds of the State Medical Society, a sum not to exceed $500.

PRESIDENT: Well, of course that will depend upon the amount of money we have on hand. We have not as yet heard the report of the treasurer, and it will depend a good deal on that. Does this motion receive a second?

Motion seconded.

PRESIDENT: Is there any further discussion of the subject? Dr. Evans, let us hear from you.

DR. EDWARD EVANS, La Crosse: Mr. Chairman. I suppose this pertains to the duties of the House of Delegates, and I am sure that if we have not $500, there is no question that we could raise that amount, or twice that amount, if the officers will get the right sort of a man to write this history. I think we could get that amount by popular subscription in the Society, or such amount as the Society would fall short of out of the funds on hand I am sure we could raise amongst the members. I should like to see this work done.

PRESIDENT: Are there any further remarks on this subject? It is a very important subject, Gentlemen, let us hear some discussion of it. If there is no further discussion, the motion is that it be left to the officers of the Society for the coming year, is that it?

DR. C. E. NYSTRUM, Medford: The President and Secretary I think would be plenty. The more officers you have, the harder it is to get together on any proposition.

DR. J. F. SMITH, Wausau: Mr. Chairman, would it not be true that if this history is gotten out in attractive form that a sale of the book among the physicians of Wisconsin would bring a considerable amount. It would probably pay for most of the expense in connection with the publication, I should think.

PRESIDENT: I think that is true. Everyone would want a copy of the volume, and there would be some profit in each volume sold.

DR. SMITH: Not simply gotten out in the form of an issue of the *Journal*, but have it bound and put up in permanent form. I think that nearly all the physicians in the state would want the book.

PRESIDENT: Dr. Frank of this city wrote a history of the physicians of this city, and a great many copies were sold. But whether or not the sale of these histories covered the expense, I do not know.

Is there further discussion?

SECRETARY ROCK SLEYSTER: Mr. President and Gentlemen, I believe it would be better to continue the present committee and refer the matter back to them, rather than to the President and Secretary, as Dr. Nystrum has suggested, not that I am trying to shirk any work, but the President and Secretary generally have their hands pretty full. If it is made the business of someone who has nothing else in the way of Society work, they can be assured of the hearty cooperation of the President and Secretary. I realize that Dr. Dearholt has been very busy, but this is giving him power to get someone else to do the work for him, I believe he is sufficiently interested to do that.

DR. H. E. DEARHOLT, Milwaukee: Mr. Chairman and Gentlemen, I am very much obliged to the Secretary for the compliment, but that does not get action. I have proved by two years of utter incompetency that I am absolutely unqualified for the job of chairman of this committee. The proposal was made by me that such a committee be appointed, when I was President of the Society. It is a subject that is very dear to me, and I thought at first that I might be able to do the work, but I find that I am utterly unable to do it, simply because other things get in the way. The whole object of the present report was to insist again upon the importance of this work being done, just as Dr. Sleyster has suggested, and I want to say that in reporting that nothing had been done specifically in the recording of that history, I meant to say that nothing had been done by this committee. It has been an utterly inactive committee, and to continue the committee, simply "passes the buck" and would constitute a failure of the House of Delegates to do anything along this line. As far as I am personally concerned I think too much of this project to accept a place on that committee again. If the balance of the committee can do the work, all well and good. However, I have my doubts about the balance of that committee, personally. For one thing, I do not believe that a successful committee can be located in Madison, Marinette, Milwaukee and Ripon. You cannot get the men together, and there is no opportunity for discussing the questions. It therefore becomes a one man's job. If you can get a good chairman, it would be a good idea to have a committee of one, but you must have the right one. So I personally decline absolutely to serve again on this committee, not because I do not like the project, but because I like it too well.

DR. A. J. PATEK, Milwaukee: Mr. President and Gentlemen. In the matter of appointing a committee of this kind in accordance with the motion before the House, it would, I believe, be best not to bind that committee at all by any reservations, nor to ask it to select its active member, whoever he be, in any particular way. The committee may make its report in any way that it sees fit, in magazine or book form, with the appropriation that is made for it, and in that way you will probably get the best work from such a body.

PRESIDENT: I see. Of course my own opinion on that point is that it is necessary to have someone on this committee who is interested in this kind of work, and who is willing to take hold of it and push it to completion. There is no use of this House of Delegates appointing another committee, when we have no way of knowing at the present time whether they will be willing to act on the committee and be active members.

DR. A. J. PATEK, Milwaukee: Might not such a committee be appointed by the Chair?

PRESIDENT: It could be so appointed, if that is the wish of the House of Delegates, or we could put the matter over until tomorrow, when we will probably be better advised on the matter.

DR. C. E. NYSTRUM, Medford: Mr. President and Gentlemen: I have done a great deal of such work, and I find that it is very hard and consumes a great deal of time, but I believe that with an appropriation of $500, and a writer who is paid to do the work, so that it becomes his duty to look up this history and do all of the work, and with some official to tell him where to get the material, that it can be successfully accomplished; and perhaps all that the committee would have to do would be to look the work over and correct it. It seems to me that that would not be too much work for the committee.

PRESIDENT: You mean to hire someone to superintend and do the work, and let the committee look it over?

DR. NYSTRUM: Superintend and do all the work, and simply have the committee overlook and correct it. That would relieve the officers and committee of the work. It does not seem to me that there would be so much work to it if that plan were followed.

PRESIDENT: Is your motion that the Chair appoint the committee?

DR. NYSTRUM: There is a motion before the House, I believe, to raise the $500.

SECRETARY SLEYSTER: The President and Secretary.

PRESIDENT: Gentlemen, you have heard the motion that the President and Secretary constitute a committee, and that $500 be appropriated out of the treasury to pay the expenses of the work. All those in favor of this motion will manifest it by saying "aye," opposed "no".

DR. A. J. PATEK, Milwaukee: Call for a division, Mr. President, on that vote.

PRESIDENT: The ayes seem to have it, so there is no use in having a division.

DR. PATEK: You might put it to a rising vote.

PRESIDENT: I will be glad to do that, to get out of the responsibility.

DR. H. GILBERT, Madison: Does that mean, Mr. Chairman, to appropriate $500 whether we have it in the treasury or not?

PRESIDENT: Yes, it means that if we haven't it, we must collect it from you men. It means, that we will raise your membership fee.

DR. WILSON CUNNINGHAM, Platteville: I believe, Mr. Chairman, if the motion is carried, and it goes to the Council for approval, and they feel that we have not sufficient funds, they will not approve it.

PRESIDENT: Someone has called for a division of the House. All in favor of the motion may rise.

Now those against it, will please rise.

(Motion carried.)

PRESIDENT: Well, we seem to be badly beaten.

DR. S. S. HALL, Ripon: There is no limit as to time of the action of that committee?

PRESIDENT: No, I suppose not. I suppose they will keep on writing volume after volume, until the $500 is gone, and then call for more money. That is the disposition of the committee at present.

I will now call for the report of delegates to the annual meeting of the American Medical Association, Dr. Horace M. Brown, Chairman. As Dr. Brown is not present, we will pass on to the next number, which is the report of the delegate to the Council on Medical Education, Dr. L. F. Jermain, Chairman.

The report of delegate to the Council on Medical Educaiton was presented by Dr. L. F. Jermain, Milwaukee, as follows:

REPORT ON 15TH ANNUAL CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION.

There were 145 registered delegates present at the 15th annual conference of the Council on Medical Education.

A number of excellent papers were presented, dealing chiefly with the needs of medical education as revealed by the war. Improved methods and better facilities for clinical teaching and the importance of more adequate instruction in preventive medicine were particularly insisted upon.

An interne year as a prerequisite to a commission in a medical corps and a license to practice was strongly advocated. This interneship to be served in an approved hospital and a medical college assume the responsibility for the training received.

Improved clinical teaching and satisfactory interne training means well equipped and well organized hospitals, hence an important step in the further development of medical education and medical practice is the investigation and standardization of hospitals.

It was pointed out that in all probability much of the unfitness of medical men for medical military service was the result of an era of lax medical education and failure on the part of medical men to continue the industrious pursuit of scientific medicine after graduation.

In general it was stated, however, that the general qualifications of the great majority of medical men entering the service were good, and that in no department

was this country better prepared for war than in the medical.

Respectfully submitted,

LOUIS F. JERMAIN,

Delegate to the Council on Medical Education.

PRESIDENT: Are there any remarks on the report as read? If not, we will pass on to the next number, which is the report of the delegate to the Council on Health and Public Instruction, Dr. G. Windesheim, Kenosha, Chairman.

DR. G. WINDESHEIM, Kenosha: Mr. President, there was no meeting of the Council on Health and Public Instruction, and consequently there is no report.

PRESIDENT: The next matter before the House of Delegates is the report of the chairman of the Council, Dr. Edward Evans.

DR. EDWARD EVANS, La Crosse: Mr. Chairman and Gentlemen: Fortunately the constitution does not call for a written report from the chairman, and there is nothing to report with the exception of routine business of the last annual meeting, and the meeting of the council in January, both of which were published in the Journal proceedings, and I am sure that you all as good readers of the Journal, have read those reports.

There is no report to make as to the individual work of the councilors in their various districts. Because of the war very little activity was carried on locally, except in pushing war matters. As the Board of Censors, the council has had nothing to do, except that at our meeting in January we took up the matter of the cooperation that was asked for the Tri-State Medical Society from this Society, and inasmuch as this Tri-State Medical Society holds its meetings at a time that was conflicting very seriously with our own meeting, without having consulted us, and inasmuch as they require no standard for entrance into the Society, we found that the duty of the Council was to advise the State Medical Society of Wisconsin to simply let it severely alone.

As chairman of the Council, I would like to say a word, although it is not quite in order, as to the splendid growth of our Journal during the last year, not only in the splendid war work it did, and the record it kept of our men in the Service, but of the great improvement, I am sure, in the Journal, from a scientific standpoint. The last number I think especially is one that any state medical society might be very proud of, and as chairman of the council I would like to draw the attention of the members to the splendid work our editor is doing, and to beg for the Journal your very hearty cooperation, not merely in reading it, which will be to our mental benefit, but in taking an interest in the clinical department that has been established, and which seems at last, after several years of effort, to be getting on its feet. I would also like to draw the attention of the members to the fact that that clinical department is not intended for case reports by the two editors, Dr. Evans and Dr. Warfield, but that they beg to have interesting case reports sent in by any man anywhere in the state.

CHAIRMAN: Are there any suggestions to be made with reference to this report, or any remarks?

DR. H. GILBERT, Madison: Mr. Chairman, I do not know but I misunderstand a remark that Dr. Evans made, as regards the conflict in dates of the meetings of the Tri-State Medical Society and the State Medical Society of Wisconsin. As I understand it the Tri-State Medical Society meets in August, and our State Medical Society in October. Furthermore, I may have misunderstood his statement as regards the requirements for entry in the Tri-State Medical Society. My understanding is that they are not any different from the requirements for entry into the State Medical Society.

DR. EDWARD EVANS, La Crosse: I think they are, and if a change in dates has been made, it is only very lately. Two years ago, for instance, the dates of the meetings conflicted, and our secretary took the matter up with them, and I think that may be the reason it has been somewhat changed.

DR. H. GILBERT, Madison: The meeting last year was held in August, and the meeting this year in August.

SECRETARY SLEYSTER: The meeting this year was held in September.

DR. GILBERT: I beg pardon, it was.

SECRETARY SLEYSTER: The meetings of the Tri-State Society, in spite of the best efforts of this Society, have been held four weeks in advance of our meeting. We have been using our best efforts to get them to set their meeting for a date earlier in the summer, or else later. Their meeting does not conflict with Iowa or Illinois, because those state meetings are held in the spring. But a meeting held four weeks in advance of our meeting does interfere with our attendance.

DR. H. GILBERT, Madison: Does the meeting held in Iowa or in Illinois, conflict with a meeting held in October?

DR. R. SLEYSTER: No, but, Dr. Gilbert, men from Madison or Janesville or Beloit, who attended a meeting four weeks ago at Rockford are not nearly as likely to come to our state meeting when held such a short time afterward. If a man goes down there and spends two or three days he thinks he has spent as much time as he can, and we do notice a decrease in the number of members from those sections attending our meetings.

Regarding the requirements of membership in the Tri-State Society—I just want to make this plain. Their constitutions and by-laws require that their members be members of the three different state medical societies. However, they have never exercised any precaution whatever to see that the men who register at their meetings, and who receive their badges are members of those three state societies.

I know that at the Madison meeting any horse doctor or chiropractor could have gone to the desk and received

one of the badges. There was nothing to prevent it, because there was no check on the membership. These are matters which were brought up at the council meeting, and the council felt that until the Tri-State Society does correct them, we could not lend any active co-operation.

PRESIDENT: Doctor, I would ask you if the officers of the Tri-State Medical Society have asked for a list of our members?

SECRETARY SLEYSTER: Yes, the officers of the Tri-State Society have asked for lists of our members for the purpose of mailing their programs, and have asked that their programs be published in the Journal. That has been done for each of their meetings, with the exception of this year. A very unfortunate occurrence happened this year. Dr. Sullivan wrote in from Madison asking for a list of our members, and sending a very lengthy program, which he wanted published in our Journal. The letter was addressed to the editor of the Wisconsin Medical Journal, Milwaukee, Wisconsin, instead of to Wauwatosa, and was finally delivered to Dr. McMahon's office. At that time Dr. McMahon was tearing up, getting ready to move over to the Wells Bldg.; his office girl who had been with him and had the charge of his office for a number of years, had just been married, and he had a green girl in the office. That letter was held in his office for three weeks before it was forwarded to me. I immediately wrote to Dr. McMahon explaining the occurrence, and requesting him to write Dr. Sullivan and make explanation, so that there could be no misunderstanding about it. Unfortunately Dr. Sullivan's letter was received too late to allow of publishing the program in the Journal. The Journal had already gone to press, but I offered to send Dr. Sullivan the list of members. That was about ten days before their meeting. Dr. Sullivan, however, said it was too late. It was a very unfortunate occurrence, and I am very sorry it happened. It was one of those unavoidable things that do happen with a change of office force and failure to forward mail. If the letter had been properly addressed to me I would have been very glad to publish their program as I have in previous years.

DR. H. GILBERT, Madison: Mr. Chairman and Gentlemen. It occurs to me that if these meetings are to continue being held in October, and the meetings of the Tri-State Medical Society are to continue to be held in August or September, that there will persist this conflict in the dates. Would it not be wise then to consider some understanding between the two organizations? I feel that the Tri-State Medical Society is on such a basis that it will continue. It has had three excellent meetings. I also feel that this Society will continue to hold its meetings, and probably at this time. Would it not be desirable to have the officers of this organization have some sort of an understanding with the officers of that organization with a view of having less conflict as regards the dates of meeting?

SECRETARY ROCK SLEYSTER: We have tried our best, Dr. Gilbert, but we cannot get them to change that date. I have repeatedly written them, and have had personal interviews with their officers, telling them that if they would only set the date of their meeting ahead to about the 1st of August, about halfway between the time of the Illinois-Iowa meetings and our meeting, that I would give every cooperation.

PRESIDENT: I would suggest, Doctor, that someone be appointed to act as mediator between the two societies, possibly some committee.

DR. H. GILBERT, Madison: The suggestion occurred to me, and I made it in my remarks, that the officers of the respective organizations try to arrive at some understanding.

PRESIDENT: Is that a motion, Dr. Gilbert? If so, we can put the motion.

DR. GILBERT: I did not make a motion. I would like to have the matter discussed, if necessary.

DR. EDWARD EVANS, La Crosse: We have already done that, Dr. Gilbert. Dr. Sleyster has had the matter up with them, trying to get them to do that.

PRESIDENT: Well, if we are through with that subject we will ask for the reports of the councilors from the various districts.

The report of the councilor from the 2nd district was presented by Dr. G. Windesheim, Kenosha, as follows:

Mr. President, Members of the House of Delegates:

For certain reasons it was not possible for the councilor of the second district to visit each county society during the past year as is his duty, but reports received from the various societies lead him to believe that in general the interest in medical society work has not been lacking which is indicated by an increase in membership over last year of four in one county and one in another county.

Walworth County has 27 members—the same as last year—two removals and two accessions—no delinquents. Racine County has a membership of 47, a gain of one over last year—one removal, one death, two new members, no delinquents. Kenosha County has increased its membership from 34 to 38, a gain of 4; one removal, four new members, no delinquents. One transfer.

The fact that there is this year a gain in membership of 4, and no delinquents to be reported, is very encouraging and shows that the secretaries of the various county societies as well as the secretary of the State Society have been doing energetic work during the past year.

The still somewhat unsettled condition of affairs in the country is undoubtedly responsible for the failure of two of the county societies to hold meetings as regularly as in former years.

Racine County was the only one in the District to hold its four regular meetings. Walworth has not been able to hold more than one meeting and Kenosha has had six instead of twelve, as usual. The fraternal and scientific spirit, however, while somewhat inconspicuous by reason of decreased number of meetings, is of as

high a standing as before. This can be realized by talks with individual members.

As a whole the situation is satisfactory and the prospects good.

Respectfully submitted,

G. WINDESHEIM,

Councilor Second District.

PRESIDENT: I will call on the councilor from the Third District, Dr. Nye, of Beloit.

SECRETARY ROCK SLEYSTER: Mr. Chairman, Dr. Nye has removed temporarily to some place in Alabama, and has written that he does not know whether his removal from the state will be permanent or not, but that he will know by the first of the year.

PRESIDENT: I will call on the councilor from the Fourth District, Dr. Wilson Cunningham, Platteville.

The report of the councilor from the Fourth District was presented by Dr. Wilson Cunningham, Platteville, as follows:

Mr. President and Gentlemen: There is nothing unusual to report from the Fourth District this year. The work is being carried on about as usual in the different county societies. We have had one district medical meeting this year, which was very well attended, and a good program carried out. The general enthusiasm in the district from a medical standpoint is about normal. We were unfortunate in having a slight falling off in membership, due mostly to one county; whether that will be rectified soon or not, I cannot say.

PRESIDENT: I will call for the report of the councilor from the Fifth District, Dr. Zierath. Dr. Zierath not being present we will call for the report of the councilor in the Sixth District, Dr. Abraham.

The report of the councilor from the Sixth District, Dr. H. W. Abraham, Appleton, was presented as follows:

Mr. Chairman and Gentlemen: The Sixth District is in a very healthy condition. It is a district in which practically all of the eligible men belong to the Society, and have kept in the Society. The record this year is ten more members than there were last year. Only a few changes have been made, either by way of removals or death, and the extra added new members.

The scientific work in at least two of the societies has been as high as it has been at any time. The Society had monthly meetings, and in most all of the meetings there were scientific papers. On several occasions men from outside of the district, and sometimes outside of the state were invited, and we had rousing meetings. Two of the societies have one meeting in every year in common. Those are the Outagamie and Winnebago County Societies. The interest is thoroughly kept up, and there is no great effort needed to keep the district in good condition.

PRESIDENT: I will not call on the councilor from the Seventh District, Dr. Edward Evans, La Crosse.

Dr. Edward Evans, La Crosse, presented the report from the Seventh District as follows:

Mr. Chairman and Gentlemen: There is very little to report in the Seventh District. We have a gain of two members for the year. Our membership in the district is now 123, in spite of some removals.

The activity from the scientific standpoint has not been very great, because a large number of men have been in the Service, and things have been more or less broken up. All of the counties have held at least one annual meeting to elect officers. Our own county medical society, with the inducement of a good chicken dinner at a road-house, has had some good rousing meetings.

We have not been able to hold a district meeting for the last two or three years.

PRESIDENT: The Eighth District, Dr. Redelings, councilor. Dr. Redelings is in the West for his health, and I am very glad to announce that Dr. Redelings, who is Past President of the Society, and councilor from this district, has almost entirely recovered from a stroke of apoplexy which he had a few weeks ago.

I will call on the councilor from the Ninth District, Dr. Smith.

The report of the councilor from the Ninth District was presented by Dr. Joseph Smith, Wausau, as follows:

Mr. Chairman and Gentlemen: I was not aware of the seriousness of the report from this district until a few days ago, when it came to my hand. The report which we had in January did not show the condition which the present report seems to indicate. I am inclined to believe, however, that much of this report is probably due to men shifting about from one place to another, as a result of service in the Army. I know that in our district quite a number of men who were located in some of the smaller places, are not going back to those places, and this probably offers an explanation for the loss in membership. For instance, we have here in Clark County a membership last year of 13, and this year of 8, with 9 delinquents. Every county in our district seems to show a loss with the exception of one, that being Lincoln County, which has held its own. As far as I know they have had no meetings there. They have the same membership this year, having neither lost nor gained.

I will say, however, that I think the work in our district has been carried on as well as could be expected under war conditions. Our councilor district medical society has held its quarterly meetings regularly right through the period of the war, and will hold the next meeting in the middle of October at Wausau. So that part of our activity has been carried on uninterruptedly.

I shall make an effort to ascertain what the cause of the trouble is in Clark County, and one or two of the other counties where the reports look especially bad. But I suspect that this is due, as it is in some of the counties, as I know, to the laxity of the secretary. That is usually the cause. Perhaps he has never asked these men for their annual dues, or asked them whether they were going to become members, or renew their membership, or even perhaps has said nothing to them about it. I know this to be the case in some of the counties. I think that the inefficiency of the county secretaries is

really the greatest difficulty that we have to contend with in the county medical societies.

Now there is another matter that I should like to speak of in this connection. I do not know whether this is the proper time to bring the matter up, but I would like to mention it here at this time, and that is the matter of Green Lake-Waushara County. They are an appendage attached to our district, but have never been, as far as our activities are concerned, anything more than an appendage. We have never been able to get those men to any meeting. Whether they are able to go to any other district meeting or not I am unable to say. They have long since been dropped off our mailing list in our district society, because we have mailed them cards dozens and dozens of times, without getting a single man from either of those three counties to attend. It has occurred to me that possibly a little reconstruction in the arrangement of these councilor districts might be advisable. Some of the counties that are near us and could attend our meetings belong to the district north of us, where they are so far from the meeting place that they practically never attend. For instance, Langlade, which is right alongside of our county, very easily accessible to us, I think belongs to the Ashland district, while Green Lake, Waushara and Adams, which are far down in the south, have no possible railroad connection with us, and are never present at our meetings, are attached to our district. At the proper time I think it would be well worth considering whether a little something in the way of reconstruction in this district would not be advisable.

PRESIDENT: I presume the matter of reconstruction of the district would be a matter for the Council to consider.

DR. G. WINDESHEIM, Kenosha: That is a matter for the House of Delegates to consider.

DR. H. E. DEARHOLT, Milwaukee: The matter could be referred to the Council, could it not, by the House of Delegates?

SECRETARY SLEYSTER: Either can settle it.

PRESIDENT: If the House of Delegates wishes to take that matter up now, we are ready for the question.

DR. JOSEPH SMITH, Wausau: May I ask Dr. Abraham if he knows whether it is possible for those men in Green Lake-Waushara-Adams to attend the meetings down in his district or any of the adjoining districts. You are councilor, are you not, Dr. Abraham?

DR. H. W. ABRAHAM, Appleton: I am councilor for the Sixth District.

DR. SMITH: Do you know anything about the situation of those three counties, geographically?

DR. ABRAHAM: I think it is about as hard for them to reach that district. Some of them could go to Fond du Lac, but I think Fond du Lac belonged to that district before, and was put into the Sixth District some few years ago, at least it was not in the Sixth District when I was first made councilor.

DR. S. S. HALL, Ripon: I do not think Fond du Lac County ever had any connection with Green Lake-Waushara-Adams.

DR. ABRAHAM: It did not belong to the Sixth District, but I do not know where it did belong.

SECRETARY SLEYSTER: It belonged to Dr. Zierath's district.

DR. SMITH: I do not know if they would be any better off in the Sixth District.

DR. S. S. HALL, Ripon: The trouble with those counties is this: most of the physicians in Green Lake County are in Berlin, which is the C. M. & St. P. terminal, and consequently have to go out to Ripon to get anywhere, and one or two men at Markesan, which is at the terminal, far from any immediate communication with the eastern part of the county. Adams County has very few physicians and no direct communication with Fond du Lac County.

SECRETARY SLEYSTER: We have three members in those two counties.

DR. S. S. HALL, Ripon: The Fond du Lac County Society meetings are all held in Fond du Lac, in the evening, and it is very difficult for the men in Ripon to get over there for an evening meeting. To do so they have to go to Oshkosh, and return home the next morning, or drive over. A good part of the year the roads are bad, and it is very difficult to drive. So the western part of our county does not get very much benefit from these meetings. I am about the only man who ever goes to a meeting of the county society, and sometimes I do not go for a year. It is a very difficult matter to settle this question. I do not know where we can put these counties unless we build a railroad out there and get them together.

DR. SMITH: Berlin and Ripon are not very far apart.

DR. HALL: They are about 12 miles apart. If we could divide Fond du Lac County into two districts, and take the western part and put it with Berlin, then we could always go to Berlin for the meetings, and I think perhaps we would get together.

The only thing that I known of the Green Lake-Waushara-Adams doing is to have a picnic once a year over at Green Lake, and I think that was two years ago. I was invited to that meeting or picnic. They were to have a steamer ride and go fishing and that sort of a time, and myself and one other physician went over to the meeting. We did not find any of the members of the Green Lake-Waushara-Adams county society at the picnic, so we had a picnic all by our lonesome.

The Berlin men are very cordial people, and if we go there we always have good meetings. That is about the situation.

Fond du Lac County Society is made up of men in the eastern part of the county, that is, so far as any active work is concerned.

Dr. H. W. Abraham, Appleton: Mr. Chairman, I think it would be better to attach the Green Lake-Waushara-Adams District to some other district, than the Sixth District, if they were to be attached to some other district, because the Sixth District is now the largest district in membership of any district with the exception of Milwaukee. However, I should not shirk the work at all, or any other councilor would not shirk the work, but it hardly seems to fit in with the Sixth District, because there is no railroad connection really, except at one end of one county.

President: May I ask if it is the desire of the House of Delegates to have this matter settled by the House of Delegates, or to refer it to the Council?

Motion seconded.

Dr. H. D. Ludden, Mineral Point: Mr. Chairman, I make the motion that the matter be referred to the council to be settled at the next meeting in January.

President: It has been moved and seconded that this matter be settled before the Council at the January meeting, so that they have time to study the situation between now and then. That would probably be a proper solution of the matter. It would be a pretty difficult proposition to settle to-night. All those in favor of this motion will signify by saying "aye," contrary "no."

Motion carried.

President: I will now call on the councilor of the Tenth District, Dr. Cairns.

The report of the Tenth District was presented by Dr. Rollo Cairns, River Falls, as follows:

Mr. Chairman and Gentlemen: The Tenth District suffered considerably during the war period, and has not as yet fully recovered in its scientific work. However, I think the district is coming back in that respect.

As to membership we can report this year a gain of 10 over last year. Last year we reported 138 for the district, and this year we can report 148 to date.

President: I will call on the councilor of the Twelfth District to present his report, Dr. Dearholt.

The report of the councilor of the Twelfth District was presented by Dr. Hoyt E. Dearholt, Milwaukee, as follows:

Mr. Chairman and Gentlemen: The Twelfth District consists of Milwaukee County alone. There has been quite an apparent loss in membership, namely, 69. The membership in 1918 was 396, and 327 during the past year. Eighty members are reported as delinquent. The membership in the Twelfth District is a very large one, and shifts very rapidly. I have frequently been taken to task by the secretary for reading this report, which he states has been greatly changed between the time the report was made out and the date of its reading. The work here, as everywhere else, has suffered on account of war conditions. We might do somewhat better if we were to adopt the suggestion of Dr. Evans, of having chicken dinners at the road-houses, but some of the older members tell me that since the 1st of July there are not as many chickens around the road-houses as there used to be.

President: The next order of business is the report of the Treasurer, and I will call on Dr. Hall to present his report.

Dr. S. S. Hall, Ripon, presented the report of the Treasurer as follows

TREASURER'S REPORT.

Milwaukee, Wis., September 30, 1919.

S. S. Hall, Treasurer, in account with the State Medical Society of Wisconsin.

DEBTOR.

Balance on hand Oct. 1, 1918	$4,340.47
Received from Secretary for County Dues	3,751.25
Total	$8,091.72

CREDITOR.

1918			
Oct.	5—Cannon Printing Co	$ 18.00	
	8—Meyer Press	23.00	
	12—Joseph Bellin—Expense	2.75	
Nov.	12—Rock Sleyster—Expense Sec'y	9.17	
	The Schwab Stamp & Seal Co.—Expense Sec'y	1.08	
	Waupun Democrat—Expense Sec'y	3.50	
	The H. H. West Co.—Expense Sec'y	66.75	
	Meyer Press—500 Programs	24.00	
	Violet Coles—Clerical Service	5.40	$ 153.65
1919			
Jan.	2—Rock Sleyster—Expense	$ 7.05	
	Violet Coles—Clerical Services	30.00	
	6—Meyer Press—Expense Sec'y	31.80	
	11—Horder's Sta. Stores—Expense Sec'y	9.10	
	13—G. Windesheim—Expense	69.20	

	Buckmaster & Hammond—Expense Dr. W.	10.00	
	14—Rock Sleyster—Refund Drs. Kron & Steves	8.00	
	23—American Medical Association—Constitutions	18.75	
Feb.	5—Rock Sleyster—Expense Sec'y	19.03	
	25—Wis. Anti. Tub. Assn.—Expense	133.85	336.78
Mar.	4—Rock Sleyster—Postage	$ 6.00	
	H. E. Dearholt—Councilors Luncheon	29.85	
	12—Dr. F. P. Knauf—Expense Committee MDF	5.50	
Apr.	3—Violet Coles—Clerical Services Sec'y	30.00	
	30—Dr. R. E. Mitchell—Refund dues Dr. I. F. Thompson	2.00	
May	5—Rock Sleyster—Expense	10.80	
	Siekert & Baum Sta. Co.—Expense Sec'y	7.00	
	Meyer Press—Expense Sec'y	20.00	
	The Schwab Stamp & Seal Co.—Expense Sec'y	.50	
	10—Wis. Med. Journal—Notices and Labor	6.00	
	12—McDermott & Cowan—Stenographers	270.80	388.45
June	5—Rock Sleyster—Expense	$ 15.00	
	Cannon Ptg. Co.—Expense Sec'y	13.00	
July	5—Rock Sleyster—Expense Delegate AMA	78.55	
	Violet Coles—Clerical Services Sec'y	30.00	
	H. M. Brown—Expense Delegate AMA	78.55	
Aug.	4—Cannon Ptg. Co.—Circulars	5.75	220.85
			$1,099.73
Sept.	9—Wisconsin Medical Journal	$1,500.00	
	17—Violet Coles—Clerical Services Sec'y	30.00	
	Rock Sleyster—Expense	12.50	
	29—Wisconsin Anti-Tuberculosis Asso	5.66	
	Cannon Ptg. Co.—Expense Sec'y	4.50	
	Cannon Ptg. Co.—Expense Sec'y	10.00	
	Cannon Ptg. Co.—Expense Sec'y	19.00	
	The Schwab Stamp & Seal Co.—Badges	9.82	1,591.48
1919			
Jan.	2—Rock Sleyster—Salary 3 months	$ 150.00	
Apr.	3—Rock Sleyster—Salary 3 months	150.00	
July	5—Rock Sleyster—Salary 3 months	150.00	
Sept.	15—Rock Sleyster—Salary 3 months	150.00	600.00
	S. S. Hall—Salary year 1918-1919	$ 200.00	
	S. S. Hall—Incidentals	20.00	220.00
	Total		$3,511.21
	Balance		4,580.51
	Total		$8,091.72

Audited Oct. 1, 1919, and approved.

E. EVANS,
JOSEPH F. SMITH,
H. W. ABRAHAM, Com.

TREASURER'S REPORT, MEDICAL DEFENSE FUND.

Milwaukee, Wis., September 30, 1919.

S. S. Hall, Treasurer, in account with the State Medical Society of Wisconsin.

DEBTOR.

Balance on hand Oct. 1, 1918	$2,801.59
Received from Secretary for County Dues	2,494.25
Total	$5,750.84

CREDITOR.

1918			
Oct. 29	Lines, Spooner & Quarles	$2,800.00	
1919			
Sept. 27	S. S. Hall—Expense Milwaukee—Oct. 26, 1918	6.35	$2,806.35

Audited Oct. 1, 1919, and approved.

E. EVANS,
JOSEPH F. SMITH,
H. W. ABRAHAM, Com.

Total	$2,806.35
Balance	2,944.49
Total	$5,750.84

MEDICAL DEFENSE FUND.

In Account with S. S. Hall, Treasurer. As Sept. 8, 1919.

DEBTOR.

1918			
Oct. 1	Balance on hand	$2,801.59	$2,801.59
Received—			
Nov. 12		$ 49.00	
Dec. 4		8.50	
1919			
Jan. 2		50.00	
Feb. 5		1,328.00	
Mar. 4		734.00	
April 3		308.00	
May 5		90.00	
June 4		86.00	
July 5		36.00	
Aug. 4		82.00	
Sept. 3		92.00	
		$2,863.50	$2,863.50

CREDITOR.

1918			
Oct. 29	Lines, Spooner & Quarles	$2,800.00	
	S. S. Hall Expense	6.35	
		$2,806.35	$2,806.35
	Balance on hand		$2,858.74

PRESIDENT: I will appoint the following delegates to audit the books, and to report at a future meeting of the House of Delegates: Dr. Edward Evans, Dr. Joseph Smith, and Dr. H. W. Abraham will constitute that committee, and will report at a subsequent meeting. If you are unable to report tomorrow morning, report the day following.

I will now call for the report of our Secretary, Dr. Sleyster.

The report of the Secretary was presented by Dr. Rock Sleyster, Wauwatosa, as follows:

REPORT OF THE SECRETARY FOR THE PERIOD FROM JANUARY 1 TO OCTOBER 1, 1919.

To the House of Delegates—

During the past two years, no change has occurred in the number of component county organizations. Fifty-four county societies remitted for their members. All counties in the state with the exception of Marquette County are organized. A total number of 1,875 paid 1919 dues, an increase of 39 over the previous year, and the largest membership the State Society has ever enjoyed. This is approximately 70% of the licensed physicians in the State and better than 80% of those engaged in active practice. It is probably better than 95% of those eligible for membership.

We remain the best organized of the middle west states and no state has a greater proportion of its physicians within the organization. No state having as large a number of physicians equals our society from an organization standpoint.

The incomplete report for the year 1919 follows. It should be borne in mind in comparing the tables with the figures given for previous years that the 1919 report covers a nine months' period only, while that for the

other years are for the entire twelve months. The three months remaining of 1919 will materially perfect the conditions shown. The attached tables show the 1918 membership complete, and the 1919 membership to September 30, the losses and gains, the number of delinquents, the deaths, removals and new members for each county society and each district in the state:

STATE MEDICAL SOCIETY OF WISCONSIN.

MEMBERSHIP REPORT.

September 30, 1919.

County Society.	1918—Dec. 31	1919—Oct. 1	Loss— Gain +	Delinquent	Removals	Deaths	New Members
1st District—							
Dodge	33	32	—1	1	0	1	1
Jefferson	30	33	+3	1	1	0	4
Washington	17	13	—4	5	0	0	1
Waukesha	44	41	—3	5	1	1	2
	124	119	—5	13	2	2	8
2nd District—							
Kenosha	35	38	+3	0	1	0	4
Racine	46	47	+1	0	1	0	2
Walworth	27	27	0	2	0	0	0
	108	112	+4	2	2	0	6
3rd District—							
Dane	106	108	+2	1	3	1	5
Columbia	30	30	0	0	0	0	1
Green	20	21	+1	0	0	0	1
Rock	59	66	+7	1	0	0	5
Sauk	17	15	—2	3	0	0	0
	232	240	+8	5	3	1	12
4th District—							
Crawford	6	6	0	1	0	0	0
Grant	43	41	—2	2	0	1	1
Iowa	13	10	—3	3	0	1	1
Lafayette	20	20	0	0	1	1	2
Richland	17	19	+2	1	0	0	3
	99	96	—3	7	1	3	7
5th District—							
Calumet	15	16	+1	0	0	0	1
Manitowoc	33	33	0	1	0	1	2
Ozaukee	10	10	0	0	0	0	0
Sheboygan	46	45	—1	1	2	0	2
	104	104	0	2	2	1	5
6th District—							
Brown-Kewa'nee	38	40	+2	0	3	0	1
Door	11	9	—2	0	2	0	0
Outagamie	38	37	—1	0	0	1	0
Fond du Lac	59	59	0	0	3	0	3
Winnebago	46	56	+10	2	0	0	2
	192	201	+9	2	8	1	6
7th District—							
Juneau	11	12	+1	1	0	0	1
La Crosse	44	47	+3	1	1	0	5
Monroe	19	19	0	1	0	0	1
Trempealeau J. B.	30	27	—3	1	3	0	1
Vernon	17	17	0	2	0	0	0
	121	122	+1	6	4	0	8
8th District—							
Marinette-F.	22	26	+4	0	0	0	4
Oconto	7	4	—3	7	0	0	0
Shawano	18	16	—2	0	2	0	0
	47	46	—1	7	2	0	4
9th District—							
Clark	13	8	—5	9	0	0	0
Green Lake W.A.	26	25	—1	0	2	0	0
Lincoln	15	15	0	0	0	0	0
Marathon	33	30	—3	5	2	1	5
Portage	25	20	—5	4	1	1	1
Waupaca	29	28	—1	2	0	0	1
Wood	24	23	—1	0	2	0	1
	165	149	—16	20	7	2	8
10th District—							
Barron P.W.S.B.	37	38	+1	4	0	0	5
Chippewa	21	21	0	1	1	0	1
Dunn-Pepin	17	20	+3	3	0	1	3
Eau Claire	30	37	+7	0	0	0	4
Pierce	7	7	0	3	0	0	0
Rusk	9	8	—1	0	0	1	0
St. Croix	17	17	0	2	0	0	0
	138	148	+10	13	0	2	13
11th District—							
Ashland B. I.	28	25	—3	2	1	1	0
Douglas	37	40	+3	0	0	0	2
Langlade	14	14	0	0	2	0	2
Oneida F. V.	12	13	+1	6	0	0	2
Price-Taylor	17	14	—3	2	2	0	0
	108	106	—2	10	5	1	6
12th District—							
Milwaukee	396	343	—53	64	7	1	10
Totals	1834	1784	—50	150	43	14	93

DIGEST OF TABLES.

Five districts show a gain—the tenth, 10 the sixth, 9; the third, 8; the second, 4; and the seventh, 1.

Six districts show a loss—the twelfth, 53; the ninth, 16; the first, 5; the fourth, 3; the eleventh, 2; and the eighth, 1.

The twelfth district has 64 delinquents; the ninth, 20; the tenth, 13; the first, 12; the eleventh, 10; the fourth and the eighth, 7; the seventh, 6; the third, 5; and the second, fifth and sixth, 2.

The tenth district has 13 new members; the third has 12; the twelfth, 10; the first, seventh, and ninth have 8;

the fourth, 7; the second, sixth, and eleventh, 6; the fifth, 5; and the eighth, 4.

Eighteen counties show a gain; 22 show a loss; and 14 remain the same.

Winnebago shows the greatest gain, with a gain of 10; next come Rock and Eau Claire with a gain of 7 each; and then Marinette-Florence with a gain of 4.

The greatest loss is Milwaukee County with a loss of 53; then Clark and Portage with a loss of 5 each; and then Washington with a loss of 4.

Eighteen counties have no delinquents. The following counties show the largest number of delinquents: Milwaukee, 64; Clark, 9; Oconto, 7; Oneida, 6; and Washing, Waukesha, Marathon, 5 each.

Thirty-seven report 93 new members. Honors go to Milwaukee which reports 10 new members; Barron P.W.S.B., Dane, La Crosse, Marathon, and Rock follow with five each; then Eau Claire, Jefferson, Kenosha, and Marinette-Florence with four each.

Total membership, Dec. 31, 1916	1705
Total membership, Dec. 31, 1917	1836
Total membership, Dec. 31, 1918	1834
Total membership, Oct. 1, 1919	1784
Delinquents, Dec. 31, 1917	84
Delinquents, Dec. 31, 1918	78
Delinquents, Oct. 1, 1919	150
Deaths and removals, Dec. 31, 1917	60
Deaths and removals, Dec. 31, 1918	69
Deaths and removals, Oct. 1, 1919	57
New members, Dec. 31, 1917	143
New members, Dec. 31, 1918	105
New members, Oct. 1, 1919	93

The tables given above are most encouraging. Your Secretary in his annual reports for the past two years has predicted a falling off in membership due to the gradually lessening number of graduates and new men entering the field of practice. In spite of this and the chaotic war conditions of the past two years, the society has made a steady and wholesome gain. This has been possible, however, only by the splendid and loyal efforts of our county secretaries in their co-operation with this office and few of our membership, I fear, realize the debt of gratitude we owe these ever ready workers.

STATE ACTIVITIES.

The reports of the various activities of your committees have been published in the Hand Book mailed to you. You will note that the Committee on Public Policy and Legislation has been active in behalf of the profession and public during the session of the legislature just closed.

Two new departments have been added to the Journal —a clinical department edited by Doctors Warfield and Evans and a department given over to Public Health and Laboratories edited by Doctor Stovall and Mrs. Louise F. Brand of the Wisconsin Anti-Tuberculosis Association. This is your Journal and these are your departments. May we not hope that during the coming year the membership will contribute more freely and liberally? Everything and anything of interest from a case report or original article down to a news item will be welcomed.

The Committee on Health and Public Instruction has continued to send the Crusader to each member of the Society. The Committee on Hospitals is co-operating with the American Medical Association in its work of Hospital Standardization. The Committee on Medical Defense has continued to successfully defend all legal procedures against our members.

RECOMMENDATIONS.

I have two recommendations to make:

First—That the House pass a resolution instructing the President to each year appoint from the members of the House a committee on "Reports of Officers." That this committee be instructed to read the Presidential address, the committee reports, and the reports of officers as suggested by the recommendations contained in these reports.

Second—I believe the time has arrived when the State Society must come to the front and take an active part in preventive medicine and public health work. We have lagged behind and all initiative in these matters has been taken over by lay organizations. Each year, an increasing number of our members are entering this field on a full or part time basis. I believe this House should this year create a section on Preventive Medicine and Public Health work—a section which would each year hold its own Section Meetings, appoint its own committee to take over the work now referred to our committee on Health and Public Instruction and also take over the newly created section on Public Health and Laboratories in our Journal.

POST-GRADUATE MEDICAL TEACHING.

The shortage of physicians both at the University and throughout the state, due to the large number of men in service, has seriously interfered with the post-graduate instruction instituted by the Extension Division of the State University. During the past year, however, a complete set of anatomical models and a large number of films and lantern slides have been purchased. These are now available and will be loaned to physicians, medical societies, nurses' training schools, public health organizations, our public schools, etc.

I regret to report the resignation of Doctor F. C. Rinker, who has so successfully conducted extension teaching throughout the state. Doctor Rinker leaves for Virginia this month and as yet no one has been secured to take his place.

During the coming year, the regular extension courses will be resumed and each county society will again be able to call on the University for men to make up their programs. It is also hoped that an arrangement may be affected whereby the clinical department of the Journal may be financed and extended by the University.

THE WAR PERIOD.

A report this year would indeed be incomplete without a brief reference to the part the Wisconsin profession played in war activities. Seven hundred and eighth-eight (788) Wisconsin physicians entered the service. This is 28% of the men registered to practice and fully 33⅓% of the men in active practice. It is probably 70% of the men qualified for service and is truly a remarkable showing equaled, we believe, only by Pennsylvania, a state much better supplied with physicians who serve a much denser population and could therefore more easily spare their men.

Probably 80% of the Wisconsin physicians in service have been discharged at this time and the balance will soon be home. All but a few. The following made the supreme sacrifice:

L. J. Phillips, Weyerhauser	F. M. Hawley, Mercer
J. A. Powless, West DePere	E. I. Moquin, Fairweather
A. J. Provost, Oshkosh	W. T. Murphy, Waukesha

Peace brings with it readjustments and responsibilities no less important than those we have met so splendidly the past two years. They call for our most careful consideration and study. They demand a united profession which will meet in conference frequently, the making of definite programs and then the team work and the co-operation of all so necessary to carry them out. During the great war crisis, we have reflected the spirit of this great nation as no other body of men have. During the reconstruction crisis, no less perilous, let us be abreast of the times, let us show that the Wisconsin profession, united as never before, stands awakened to its responsibilities and is prepared to play its part.

In closing, I wish to again remind the members that the activities of the organization are not confined to an annual meeting. Your officers and committees are working in your interest and in the interest of the people of Wisconsin every day of the year. This is your society, these are your officers and your committees, this is your Journal.—Make use of them for they are all created to serve you. Bring to your society and its activities your very best and take a hand in the work.

And now just a plea for the county society. It is the unit of this great body. It is the important link in the scheme of medical organization. Each member owes it his individual loyalty, his whole-hearted support, and his regular attendance. We again ask your co-operation and assure you that the secretary's office is at your service, yours to use.

Respectfully submitted,

ROCK SLEYSTER,
Secretary.

PRESIDENT: Gentlemen, you have heard the report of your Secretary, and I would ask whether there is any part of the report that you would like to discuss. There are two recommendations made in the report, one with reference to the creation of a section on preventive medicine and public health work in the State Society, and the other a recommendation relating to the appointment of a committee on reports of officers and committees of the Society. Is there any discussion relative to either of these two points? I think it would be a very good thing to have a committee to look after this work.

DR. A. J. PATEK, Milwaukee: I move, Mr. Chairman, in accordance with the suggestion offered by the Secretary in his report, that a committee of that character be appointed, to undertake the work for the following year. It is too late to do anything this year.

PRESIDENT: The committee to be appointed by the President?

DR. PATEK: A committee appointed by the President.

SECRETARY SLEYSTER: That committee might be called "Committee on Reports of Officers and Committees."

DR. PATEK: A committee of say, two or three, whichever the Secretary thinks advisable.

PRESIDENT: I think a committee of two will be large enough. Does the motion receive a second?

Motion seconded.

Motion put and carried.

PRESIDENT: Did you say a committee of two or three, Dr. Patek?

DR. PATEK: I did not specify the number. I think that a committee of two might be sufficient.

PRESIDENT: Yes, that would probably be large enough.

The next business before the House of Delegates is the election of a Delegate and an Alternate to the American Medical Association, to succeed Dr. Charles H. Lemon, Delegate, and Dr. Wilson Cunningham, Alternate.

DR. JOSEPH SMITH, Wausau: Mr. Chairman, before you proceed to that order of business, I would like to inquire whether we are going to do anything with the second recommendation made by the Secretary in his report, relative to creating a department of public health in this Society, to take the place of the Committee on Public Policy and Legislation.

PRESIDENT: I have called for a discussion of that recommendation. Have you anything to say on the subject?

DR. G. WINDESHEIM, Kenosha: Mr. President and Gentlemen: The House of Delegates has the power to divide the scientific work of the Society into sections and to create any sort of section it may deem advisable to have. It can establish a section on Public Health and Preventive Medicine now, to-night, or at any other time it wishes to do so. However, that recommendation of the Secretary includes the discontinuance of the Committee on Public Health and Instruction, and I personally would not be in favor of discontinuing that committee, because that committee may have something to do and something to report after the section on Public Health and Preventive Medicine is created, if it is to be created.

PRESIDENT: Is it the wish of the House of Delegates that we bring up this question of whether we shall have a new section in the Society, on Public Health and Instruction, tonight, or shall we defer the matter until to-morrow?

DR. H. E. DEARHOLT, Milwaukee: Mr. Chairman, to bring the matter before the House of Delegates at this time, I move that there be created a section on Public Health and Preventive Medicine.

Motion seconded.

PRESIDENT: A motion is made and seconded that a new section on Public Health and Preventive Medicine be created. All those in favor of the motion will signify it by saying "aye"; opposed "no."

Motion carried.

PRESIDENT: We now have a new section in the Society. Are there any appointments to be made by the Chair, or is there any further responsibility in the matter?

SECRETARY ROCK SLEYSTER: Mr. Chairman, I would suggest that at the general session to-morrow the President announce the fact that a new section has been created, and that those interested in that section gather together at some time during the meeting and perfect on organization for the coming year. Of course it will be too late for them to accomplish anything at this meeting, but they can organize and elect their chairman and program committee, and be ready for the annual session of 1920.

PRSIDENT: Are there any further remarks on this subject?

DR. WILSON CUNNINGHAM, Platteville: Mr. Chairman and Gentlemen: I would suggest there be some effort made to have the Secretary of the State Board of Health have the work they take up during their annual meeting, embodied in this section. I think that would make the work of this section of greater interest, and that it would probably eliminate the special work they do in the annual meeting that they have at Madison each year.

DR. H. E. DEARHOLT, Milwaukee: Mr. Chairman, may I speak for a moment on that suggestion? A large proportion of the health officers at the Biennial Conference, are not doctors; only a relatively small proportion of the health officers of the state are physicians. So I do not think that would accomplish the same object that has been in the minds of some of the medical men interested in public health work.

PRESIDENT: Is there anything more to be said on this subject? If not, the proper announcement will be made at the general session to-night, and opportunity be given to discuss it at subsequent meetings.

We come now to the election of Delegate and Alternate to the American Medical Association to succeed Dr. Charles H. Lemon, of this city, Delegate, and Dr. Wilson Cunningham, of Platteville, Alternate. What is your pleasure?

DR. EDWARD EVANS, La Crosse: Mr. Chairman, I should like to say that I have talked this matter over with some of the members, and while there is no criticism to be made of the committees that we have had, and the delegates that we have had, it does seem to me that the various committees included under numbers 21, 22 and 23 of the program are so important that if a well-chosen nominating committee were appointed to make nominations for membership on these committees, to be presented to the House of Delegates at the meeting to-morrow morning we would be likely to select better delegates, and better councilors and better committees. If the matter were left to a committee, it would give opportunity for serious consideration and they could bring in a report later, as is done in the matter of selecting the officers of our State Society, and I feel that better committees would be secured. I do not desire to delay the meeting, but it seems to me, after talking the matter over with some of the members, that this is a good suggestion.

PRESIDENT: Dr. Evans, you mean that suggestion with regard to the appointment of committees named under Nos. 21, 22 and 23 of the program?

DR. EVANS: Yes. I believe that if a nominating committee were appointed to select those committees and delegates and councilors we might be more careful, and give the matter better consideration, and perhaps secure better timber for our committees.

PRESIDENT: Do you mean that this committee shall be appointed by the President from the members of the House of Delegates?

DR. H. D. LUDDEN, Mineral Point: Mr. Chairman, I make the motion that the matter be referred to the Council to be settled at the next meeting in January.

DR. EVANS: I do not know how the committee should be appointed. The Nominating Committee has been appointed, and it is getting very late now. What do you think about it?

PRESIDENT: It gives the Nominating Committee more work and more responsibility.

DR. EDWARD EVANS: Not this Nominating Committee that already has work to do, but another one.

DR. H. GILBERT, Madison: I think it would be all right.

DR. A. J. PATEK, Milwaukee: While it is perhaps legal and proper that such a committee be appointed, that committee would act purely in an advisory capacity to the House of Delegates.

DR. EVANS: It would bring the matter before the House of Delegates.

DR. PATEK: That committee could not take any action with regard to the appointment of committees, but its action would be purely in an advisory capacity, and the House of Delegates would act upon the report of that committee as it chose. I think the suggestion of

Dr. Evans is an excellent one, and better than nominations made from the floor without special reference to the fitness of the men for the places which they are selected to fill.

DR. WILSON CUNNINGHAM, Platteville: Mr. Chairman, in order to bring the matter to an issue, I make the motion that we refer the nominations covered in Nos. 21, 22 and 23 to the Nomination Committee, to be referred by that committee back to the House of Delegates for action.

PRESIDENT: By Nomination Committee you mean the committee appointed to bring in nominations for officers. Does this motion receive a second?

Motion seconded.

PRESIDENT: The motion is made and seconded that Nos. 21, 22 and 23 be referred to the Nominating Committee elected this evening. All those in favor of this motion may manifest it by saying "aye", opposed "no".

Motion carried.

PRESIDENT: It is carried, so the Nominating Committee, elected here this evening will have this additional duty to discharge, of bringing in nominations covered by those three numbers, 21, 22 and 23.

This brings us up to No. 24, which is Miscellaneous and New Business. Is there any new or miscellaneous business?

DR. J. P. MCMAHON, Milwaukee: Mr. Chairman, under that heading I should like to inquire what has become of the Committee on Cancer, which we had a couple of years ago, and to suggest that this might be a good time to reactivate that committee to the extent of letting them at least cooperate with the American Society for the Control of Cancer, which organization became active shortly after the cessation of hostilities.

PRESIDENT: Was there a committee on that subject, Dr. Sleyster?

SECRETARY SLEYSTER: That committee, Dr. McMahon, made a report to the House of Delegates, and in the report asked for their discharge. The report of the committee was accepted, and so the committee was automatically discharged.

DR. MCMAHON: Was the report presented at this session?

SECRETARY SLEYSTER: No, the report was presented three years ago. There is no committee on cancer at this time.

PRESIDENT: Does that end the business for tonight?

SECRETARY SLEYSTER: No, this subject was brought up for discussion. Is it the wish of the House of Delegates to appoint a new committee on cancer?

PRESIDENT: What is the wish of the House of Delegates on this matter of appointing another committee on the subject of cancer? It is an important subject; let us hear from you. Such a committee might do a great deal of good.

DR. J. P. MCMAHON, Milwaukee: May I inquire how long that committee was in existence? As I recall, it was suggested by Dr. Patek when he was president, and if my memory serves me, a committee was appointed. As I further recall, the duties of the committee at that time were to make a survey of extent of prevalence of cancer in Wisconsin. I understood that the committee became discouraged because of the failure of the members of the Society to make reply to the questionaire which was circularized.

A great deal has been learned about the early diagnosis of cancer since that time. Every so often I receive a communication from the American Society for the control of Cancer, and occasionally such communications are printed in the *Journal*.. The National Society is well financed, and while it is a mixed organization of prominent and numerous people, it seems to me that there must be a fertile opportunity for effective work here in Wisconsin, and that the State Medical Society should at least have a committee to cooperate with this national body. The immediate effort should be an attempt to familiarize lay people with the premonitory symptoms of cancer, to the end that an earlier diagnosis may be made and more promising curative treatment instituted. The National organization is prepared to forward outlines of lectures to lay people and to supply lantern slide material which constitutes graduate work for the even great majority of our own members.

PRESIDENT: To get this matter properly before the House of Delegates, will some one make a motion that a committee be either appointed or elected by this body. I will entertain a motion to that effect now. As it is getting rather late, and time is limited, if you wish to bring this question before the House of Delegates, will someone please make the motion and we will dispose of the matter.

DR. A. J. PATEK, Milwaukee: Perhaps it would be well, Mr. Chairman, to lay the matter over until one of the later sessions of the House of Delegates, and in the meantime the members can think it over.

PRESIDENT: Very well, bring it up at another session. The chairman of the Committee on Public Policy and Legislation is now present, and I will call on Dr. Quick to present his report at this time.

DR. EDWARD QUICK, Milwaukee: Mr. Chairman, I have nothing to add to the formal report which I have made and which is printed in the Hand Book. I think that covers practically all the important work done by the committee during the year.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

Gentlemen of the House of Delegates:

A great deal of important legislation has been enacted and many bills have been considered since this committee

made its last report. It is impossible to report in detail all of the activities of the committee. A few things, however, we wish to call to your attention.

There was introduced in the Assembly early in the session by Mr. Bowman, No. 444-A, and referred to the Committee on Public Welfare a bill relating to the licensing of physicians and dentists and the registration of nurses honorably discharged from service in the War with Germany and her allies. Tucked away neatly in this bill is the following: "Any honorably discharged physician or surgeon of the army or navy or of the public health service of the United States shall be granted a license without examination by the board, by filing a sworn and properly authenticated copy of his honorable discharge." Your committee opposed this bill with all its power. We could not see why Wisconsin should become the dumping ground for any portion of the forty or fifty thousand men who were commissioned in the service during the war. We know as a practical matter that a great many men were taken into the service, found unfit and given honorable discharges in order that they could be eliminated from the service. We could see also that it would be very unfair to our service men to have the gates let down in Wisconsin while all of the remaining states maintained theirs. The bill was defeated.

The legislature of 1918-1919 responded very liberally to the many calls made upon it by the various health agencies in the State. There were appropriated Two Hundred Fifty Thousand dollars for the first year and Two Hundred Seventy-five Thousand Dollars for the second year for the care of patients in the county tuberculosis sanatoria. The State aid was raised from Five Dollars to Seven Dollars per week. Fifty thousand dollars annually has been appropriated for the State Board of Health. Five Thousand Dollars has been appropriated for the maintenance of a Child Welfare Bureau in the State Board of Health. Also Ten Thousand Dollars for the Bureau of Sanitary Engineering.

A bill to prevent the pollution of drinking water supplies and the disposal of sewage in trade wastes. Under this bill the State Board becomes the supreme authority to pass upon the installation of water supply and sewage disposal systems. This bill, which is based largely upon the Maryland bill, was prepared essentially at the request of the Council of the city of Milwaukee, by a committee composed of the Superintendent of Water Works, Mr. Williams, the City Attorney, and the Commissioner of Health. The bill was further gone over by Mr. T. C. Hatton of the Milwaukee Sewage Commission, and Prof. Mack, chief of the Engineering Department of the State University.

A bill fixing the qualifications of the commissioner of health and providing for a deputy commissioner of health in cities of the first class. Under this bill health work is recognized as a specialty, and the qualifications for the health commissioner and deputy are fixed so that he be a graduate of a recognized school of medicine with either the degree of Doctor of Medicine or the degree of Doctor of Public Health. In addition thereto he must have had at least one year of practical experience in public health and sanitation work.

There is a section relating to social disease which is amended to include chancroid and is enlarged by the addition of a new section forbidding prescribing of treatment for social diseases by druggists or any other person not a licensed physician and also prohibiting the display in public places of any sign, poster, advertisement or prescription to be used in connection with the prevention or treatment of any venereal disease. Another measure for venereal disease control prohibits the use of any place, conveyance or structure for the purpose of prostitution.

A bill relating to physical education. Under this bill the state superintendent of public instruction is to prepare a course of instruction in physical education, adopted to the ages and capabilities of pupils of the various grades and departments, and to prescribe the qualifications of teachers of physical education. At least two and one-half hours each school week, exclusive of the daily recess period, are to be devoted by each pupil above the kindergarten grade.

Under another bill the local board of health of each township, incorporated village, or city, has the power to establish quarantine, and to order and execute what is reasonable and necessary for the prevention and suppression of disease, to forbid public gatherings when deemed necessary, to control epidemics, and to condemn and abate conditions causative of disease by means of rules and regulations which shall be consistent with the state law and the rules and regulations prescribed by the State Board of Health.

A bill which proposed to set up a department of hygiene supervision of school children under the Superintendent of Public Instruction, was defeated.

A bill providing for a full-time state board of health officer was presented, but finally withdrawn, after the state board took steps to have the state health officer devote his full time to his office.

It is to be noted with satisfaction by all persons interested in the welfare of the people that Six Hundred Forty Thousand Dollars was provided for the better care of the Feeble-Minded.

There is a new county nurse law. It is made mandatory that the Board of Supervisors of every county, within two years after July 1, employ one or more public Health Registered nurse whose duty shall be as follows. "To act as health supervisor for all schools not already having school inspection either by a physician or school nurse; to assist the superintendent of the poor; to instruct tuberculosis patients and others in preventing the spread of tuberculosis; to assist in reporting existing cases of tuberculosis and other communicable diseases; to assist in investigating cases of delinquency, neglect and dependency of juveniles, including a state aid to dependent children, in counties not employing a probation officer; to assist in investigating cases of non-school attendance in districts where a school attendance officer is not employed; to assist in investigating cases of infringement on child labor laws; to investigate cases of crippled children due to infantile paralysis or other causes; to act as health instructor throughout the county and to perform such other duties as may be assigned

to her." It is not necessary to comment upon the far reaching influence of this act.

The act relating to the reporting of infectious diseases has been amended to include the following: "Influenza (la grippe), measles, small pox. diphtheria (membraneous croup), scarlet fever (scarletina). typhoid fever. tuberculosis (of any organ), rubella (rothella), chicken pox, typhus fever, plague, erysipelas, Asiatic cholera, whooping cough, cerebronspinal meningitis, yellow fever, acute anterior poliomyelitis, trachoma and ophthalmia neonatorum. The law also provides that it shall be the duty of every physician to report by number all cases of syphilis and gonorrhea occurring in his practice to the state board of health."

A new section provided that any county may establish and maintain an out-patient department for tuberculosis and other communicable diseases.

A bill was introduced and supported by Christian Scientists permitting Christian Scientists to treat for fees at the expense of the employer, workmen coming under the Workmen's Compensation Law. It provided that the workmen could take advantage of this privilege unless he had previously waived his right to do so. This bill was brought to the attention of the Milwaukee Chamber of Commerce by your committee. We did not oppose it. We took the ground that it was the affair of the employer of the State of Wisconsin if they wished to pay out their money for the treatment of their injured employes by prayer. The bill, however, was passed in the face of some mild opposition by a committee from the Chamber of Commerce. The bill was vetoed by the Governor. Another bill was introduced at the suggestion of the Governor, I understand, permitting an employe to be treated by Christian Scientists under the above terms providing the employer has not elected formally in writing on file with the Industrial Commission not to be held for such treatment. This bill permits all employers in the State who are adherents of the Christian Science faith to use this method of treatment for their injured employes if the employes so elect. We did not oppose this bill.

Your committee busied itself somewhat in the attempt to have national legislation establish a department of public health co-ordinate with the department of state, the treasury and other governmental departments. All efforts in this line have failed. However, the national government is carrying on a very valuable campaign in the interest of public health. We are not convinced that this work cannot be carried on as well by other agencies as by a distinct department. The establishment, however, of such a department would be a distinct gain to medical science and probably to the public at large.

Respectfully yours,

EDWARD QUICK,
Chairman.

PRESIDENT: Is there anything else under the head of New Business to come before the House of Delegates?

SECRETARY SLEYSTER: I have two communications that I will bring before the House of Delegates at this time.

SECRETARY ROCK SLEYSTER: Mr. Chairman, in order to bring this matter before the House of Delegates, I move that the President of the State Medical Society appoint a delegate to this meeting on Child Welfare and Public Health Nursing.

Motion seconded.

PRESIDENT: The motion is made and seconded that a delegate be appointed to attend the Child Welfare and Public Health Nursing, at Madison on the 9th of October. All in favor of the motion will manifest by saying "aye"; opposed, "no".

Motion carried.

SECRETARY ROCK SLEYSTER: I also make a similar motion with reference to the Roosevelt Memorial Association, and move the adoption of the resolution.

Motion seconded.

Motion put and carried.

PRESIDENT: I see some of the members are leaving, so I will make the announcement now that the meeting of the House of Delegates for tomorrow morning will be held in the committee room A at the Auditorium at 8:30 a. m. Last year there was some misunderstanding with regard to the place of meeting. The meeting at 8:30 tomorrow morning will be at the Auditorium, and not in this room at the hotel.

If there is nothing further to come before the House of Delegates, a motion to adjourn is in order.

DR. EDWARD EVANS, La Crosse: Mr. Chairman, before adjourning the meeting, I will announce that the Council will meet immediately after the adjournment of the meeting of the House o Delegates tomorrow morning, in the same room.

SECRETARY SLEYSTER: I would suggest that the Nominating Committee get together here in this room after the adjournment of this meeting, and make plans for their meeting tomorrow.

PRESIDENT: Gentlemen, I will entertain a motion to adjourn.

Motion to adjourn made, seconded and carried.

The House of Delegates adjourned to meet Oct. 1st, 1919, at 8:30 a. m. at the Auditorium.

HOUSE OF DELEGATES

STATE MEDICAL SOCIETY OF WISCONSIN

SESSION, OCT. 1, 1919,

8:30 a. m.

Meeting called to order by the President, DR. D. J. HAYES, Milwaukee.

SECRETARY SLEYSTER: I would ask the delegates who have not yet registered, to please come forward now and register.

PRESIDENT: Gentlemen, listen to the reading of the minutes of the last meeting of the House of Delegates.

(Minutes of last meeting read.)

PRESIDENT: Gentlemen, you have heard the minutes as read. Are there any changes or alterations to be made? If not, the minutes will stand approved as read.

We are under the head of New Business. Has anyone any new business to present to the House of Delegates?

SECRETARY ROCK SLEYSTER: I do not know of any new business, Mr. President. The House of Delegates has to decide on the place of meeting for next year. For the last three or four years this has been referred to the Council, and the Council has decided the question at the January meeting. However, the constitution and by-laws provide that the House of Delegates must decide, and it will be necessary for the House to take some action on the matter.

DR. H. GILBERT, Madison: I move you that the next meeting place be determined by the Council at the January meeting.

Motion seconded.

Motion put and carried.

PRESIDENT: Has anyone further new business to bring before the House of Delegates?

DR. H. DEARHOLT, Milwaukee: Mr. Chairman, I have a communication that it may be in order to bring before this House of Delegates. The communication is addressed to me, by Mr. Henry C. Campbell, President of the Milwaukee City Club, and to the Milwaukee Medical Society, but it seemed to me to be a matter that might very properly be brought before this larger State Medical Society. Briefly stated, it is a letter from Dr. George De Halle, a French surgeon who visited this country a few months back as official representative of France. He says in this letter: "I had the pleasure to succeed in the foundation of an association for the development of medical relations between France and America." And he goes on to say that the first general meeting will be held in Paris at the beginning of October. He also states: "Before this meeting I should be glad to receive suggestions from you and your colleagues You know better than we do what is necessary to organize in France to receive your students and your doctors. This association would embrace all branches of medical activity, but I think that in the future we will have to organize separate meetings for each branch. However, I hope that the United States will found a similar association to meet with us and work in the same aim."

This seems to be an effort on the part of the French surgeons to develop further the cordial relationship that has been begun between America and France, and it seemed to me that perhaps this House of Delegates might feel that some action should be taken to meet these French surgeons half way. I don't know what response this is going to receive in other sections of the country, or what the American Medical Association may choose to do in regard to it, but this is the only opportunity that will come up for a year to make any preparation for possible participation by the State Medical Society of Wisconsin in such an enterprise. I am just laying the matter before the House of Delegates, Mr. Chairman, without any specific recommendation, but more for the information of the delegates. If it does seem to be worth while, somebody will perhaps make some motion with regard to it.

PRESIDENT: I might say that this gentleman gave a lecture in this city last winter. I do not know whether he lectured in any other part of the state. But I understood that he hoped for cooperation in establishing a post-graduate school in Paris. If not a post-graduate school, then some school where Americans could go over there and they could come here and receive instruction in this country, a sort of interchange of ideas. That was the aim, was it not, Dr. Dearholt?

DR. DEARHOLT: That is as I understand it.

PRESIDENT: That was the aim desired, I believe. It is evident that the intent of this letter is to unite the profession of this country in a determination for this association. We all know that there has been a great deal of post-graduate work done recently in Paris and London. One institution seems to be vying with the other for supremacy in an attempt to draw from the institutions of Berlin and Vienna, where American physicians, and in fact, English and French physicians worked in the past. This movement seems to be an effort to establish something that will bring about cooperation between London, Paris and America. That is the way I understand the proposition. Is my idea correct, Dr. Dearholt?

DR. DEARHOLT: I think that is about it.

PRESIDENT: If you wish to take any action in this matter, I will entertain a motion.

DR. JOSEPH SMITH, Wausau: Mr. Chairman, I think the idea is a good one, provided the second part of your statement is shown to be true, that the intention is to establish a post-graduate school where the French surgeons will come to America. It may be that this is part of a propaganda of which we know, of course, there is a good deal going on abroad, to pull American dollars, which are very much needed, into Europe. I believe the idea is all right provided it works both ways. I think it is time for us to develop our post-graduate facilities in this country. We ought to look after our own interests in this matter as well as the interests of the French and English. They are trying to establish post-graduate schools in London and Paris to attract the student who formerly went to Berlin and Vienna, and I think that is perfectly all right, but at the same time I think we ought to be making an earnest effort in this country to make the United States a point to which people can go for post-graduate work; and I think before we endorse this movement we ought to ascertain that it really is going to work both ways.

PRESIDENT: Are there further remarks on this subject?

DR. H. GILBERT, Madison: It strikes me, Mr. Chairman, that it might be desirable to wait a while before taking any definite action, and have conditions determine themselves as to whether one place or the other would be a more desirable place to go. I believe that ultimately the feeling between this country and other countries that is not so kindly at present, may quiet

down, and the men will naturally choose that place to go to where they can get the best post-graduate work, be that place Paris or London or Berlin or Vienna. The time will come when that question will determine itself.

PRESIDENT: Or be it here in America too, you mean, Dr. Gilbert, don't you?

DR. GILBERT: Or in America.

PRESIDENT: Yes, put that in first, please.

DR. GILBERT: I did not consider it necessary to do so; I feel that that is self-evident.

PRESIDENT: Gentlemen. In my address this afternoon I take up the question as to whether Americans would better cross 3,000 miles of sea to Paris or Vienna or London for post-graduate work, or whether we have professional pride enough to build such an institution in our own country.

DR. C. E. NYSTRUM, Medford: Mr. President, I understand that there is a plan on foot to establish a post-graduate course at Chicago, which will be second to none in the world, and I would like to make a motion that we appoint a committee of three to confer with the State Medical Society of the state of Illinois, and the Chicago physicians, and take up the matter with them. and that we assist our neighbor in perfecting that plan. I believe that Chicago is centrally located, and the establishment of a course there will be to the benefit of all the physicians in the United States.

PRESIDENT: Dr. Nystrum, I am not saying this out of any opposition to the motion, but it would probably be as well to take up this subject of post-graduate school work, after the general session today, if the delegates so think. We will then be in a position where we will probably not be working for any particular location for the institution, neither New York, Chicago or any other place, but to work to secure one great post-graduate school somewhere in the United States, that will rank second to no such institution in the world. This is my idea. If you agree with me, Doctor, you might withdraw your motion and we can take the matter up at the meeting tomorrow morning.

DR. NYSTRUM: I mentioned Chicago merely because I think it is centrally located geographically for the doctors to attend, more so even than New York.

PRESIDENT: I agree with you on that, Doctor, but the other places centrally located may rightfully claim consideration.

DR. H. W. ABRAHAM, Appleton: I move you, Mr. Chairman, that this matter be referred to the House of Delegates of the American Medical Association.

PRESIDENT: Dr. Nystrum, will you withdraw your motion.

DR. NYSTRUM: Yes, I will withdraw my motion.

PRESIDENT: Does the motion of Dr. Abraham receive a second?

Motion seconded.

PRESIDENT: It is moved and seconded that the whole matter of this post-graduate proposition be referred to the House of Delegates of the American Medical Association. All those in favor of the motion will manifest it by saying "aye", opposed "no".

Motion carried.

PRESIDENT: Is there any other business to come before the House of Delegates under the head of Miscellaneous, or Unfinished Business, or anything that any member would like to bring up at this time?

SECRETARY SLEYSTER: The councilor of the 5th District has not yet presented his report, and I see Dr. Zierath is present.

PRESIDENT: I will call upon Dr. Zierath to present the report on his district.

The report of the councilor of the 5th District was presented by Dr. W. F. Zierath, as follows:

Mr. Chairman and Gentlemen: The 5th District comprises Calumet, Manitowoc, Ozaukee and Sheboygan counties. So far as the membership is concerned the condition of the district is very good. The scientific work has not been as good in the last year as in the past, due possibly to the apathy produced by the war. A meeting was held at Kiel recently which was very successful. It was a joint meeting of three counties. I have spoken to the secretaries of the County Medical Societies, and we are going to take a new grasp on life, and encourage the scientific work of the component societies in the district.

PRESIDENT: There was one other councilor report that was not presented yesterday. I see that our old friend Dr. Dodd is here this morning, and I will call upon him to present the report on his district.

The report of the councilor for the 11th District was presented by Dr. J. M. Dodd, Ashland, as follows:

Mr. Chairman and Gentlemen: I haven't much of a report to make for my councilor district. Things are going along pretty much in the same old way up there. We have been and are going through a reconstruction following the disturbance incident to the war. A good many of our doctors went into the Service. Some of them are coming back to the old location, others are seeking new locations, and their places are being filled. So far as the scientific work in the district is concerned, we are not doing as much as we ought to. There is a tendency at the present time toward the formation of clinical groups that we think will accomplish more in a scientific way than has been heretofore accomplished. I haven't with me this morning the report showing the condition of the membership, but I think it is not materially changed since last year. I think that is all that would be of interest to the House of Delegates from my district.

PRESIDENT: Is there any other member who has anything to present under the head of New or Unfinished Business?

SECRETARY SLEYSTER: Mr. Chairman, I would like to take the opportunity at this time to offer an apology to Dr. Edward Evans. In my report presented last night I made the statement that the Committee on Public Health and Instruction had been inactive since it was organized. As a matter of fact, the first year that committee was in existence Dr. Edward Evans was chairman, and it was a very active committee. A survey was made of all public health resources of the state, and of all the hospitals. The committee cooperated in giving publicity throughout the state to the annual physical examination date, the different leaflets issued by the Wisconsin Anti-Tuberculosis Association were circulated by the State Medical Society, and the Crusader was sent to all members of the State Medical Society. This has been continued throughout the period, but with the exception of that first year, the committee was inactive. However, Dr. Evans does deserve a great deal of credit for the hard work he did that year.

PRESIDENT: Is there any other member who wishes to ask any question, or make any suggestions for the benefit of the Society?

DR. JOSEPH SMITH, Wausau: Mr. Chairman, I just want to refer once more to that matter of post-graduate school, which we had up a while ago. I read not long ago in one of the journals that there was a project on foot to establish a ten or fifteen million dollar post-graduate hospital in London. If I remember correctly, that proposition was being backed by the Congress of Surgeons, or at least somebody connected with that organization. Now it does seem to me that it would be worth considering at least whether or not that fifteen million dollars could not be just as well expended in the United States of America as in London. I think it would be a good idea for us to instruct our delegates, if this matter goes to the House of Delegates of the American Medical Association, to at least see "America First" in this matter, before they vote to establish post-graduate schools on the other side of the ocean.

PRESIDENT: Is there any further business to come before the House of Delegates this morning? If not, a motion to adjourn is in order.

Motion made, seconded and carried to adjourn until 8:30 a. m. next day, Oct. 2nd, 1919.

HOUSE OF DELEGATES

SESSION OCTOBER 2ND, 1199, 8:30 A. M.

Meeting called to order by the President, DR. D. J. HAYES, Milwaukee.

PRESIDENT: The first order of business is the reading of the minutes of the last meeting.

(Minutes of last meeting read.)

PRESIDENT: Are there any corrections or alterations in the minutes as read

DR. S. S. HALL, Ripon: Mr. Chairman, I think reference was made in the minutes as read to the referring of the matter to the Council at the January meeting. I think the word "January" should be left out. There is no reason why the Council should not act on the matter at once.

PRESIDENT: I believe that is right. With the exception that the Council may act now if it pleases, the minutes will stand approved as read.

DR. S. S. HALL: Leaving out the word "January".

PRESIDENT: Leaving out the word "January". So shall it be.

I will now call for the report of the Nominating Committee.

The report of the Nominating Committee was presented by the chairman, Dr. A. J. Patek, Milwaukee, as follows:

President—C. R. Bardeen, Madison.
1st Vice-President—Wilson Cunningham, Platteville.
2nd Vice-President—H. W. Abraham, Appleton.
3rd Vice-President—P. F. Rogers, Milwaukee.

Delegate to A. M. A.:
C. H. Lemon, Milwaukee, to succeed himself.

Alternate Delegate to A. M. A.:
Jos. Smith, Wausau, to succeed W. Cunningham.

Councilor of Fifth District:
W. F. Zierath, Sheboygan, to succeed himself.

Councilor of Sixth District:
H. W. Abraham, Appleton, to succeed himself.

(A) Committee on Public Policy and Legislation:
Edward Quick, Milwaukee, Chairman.
J. P. McMahon, Milwaukee.
H. P. Greeley, Madison.

(B) Committee on Medical Education:
L. F. Jermain, Milwaukee, Chairman.
J. Van De Erve, Milwaukee.
C. R. Bardeen, Madison.

(Later, after discussion, the name of Dr. Edward Evans, La Crosse, was substituted for the name of Dr. Van De Erve.)

(C) Delegate to Council on Health and Public Instruction, A. M. A.:
G. Windesheim, Kenosha, to succeed himself.

(D) Delegate to Council on Medical Education:
L. F. Jermain, Milwaukee, to succeed himself.

(E) Member of Committee on Health and Public Instruction:
W. D. Stovall, Madison, Chairman, to succeed Spencer Beebe.
W. D. Washburn, Milwaukee.
Edward Evans, La Crosse.

(F) Committee on Publication:
Oscar Lotz, Milwaukee, Chairman.
H. E. Dearholt, Milwaukee.
Jos. Smith, Wausau.
Rock Sleyster, Wauwatosa, Secretary.
S. S. Hall, Ripon, Treasurer.

(G) Committee on Medical Defense:
Oscar Lotz, Milwaukee, Chairman.
H. Reineking, Milwaukee, Secretary.
S. S. Hall, Ripon, Treasurer.
F. P. Knauf, Kiel.
A. E. Bachhuber, Mayville.

ARTHUR J. PATEK,
Chairman Nominating Committee."

DR. EDWARD EVANS, La Crosse: Before submitting those nominations for approval, it would be well to note that Dr. Van De Erve has left the state, and is no longer here.

PRESIDENT: Inasmuch as Dr. Van De Erve has left the state, it will be necessary to make a change there. Will you make a motion or suggestion to that effect.

DR. EVANS: Someone should be substituted in his place.

PRESIDENT: Yes. That is on the Committee on Medical Education. I suppose it is wholly within the jurisdiction of the House of Delegates to put another man on that committee right now, so will someone make a suggestion.

DR. EDWARD EVANS, La Crosse: Mr. Chairman, I would move you, inasmuch as Dr. Sarles is a member of the Council of the A. M. A., and would be a very good man on this committee, that he be appointed.

PRESIDENT: You make that as a motion?

DR. EVANS: Yes, I make a motion to that effect.

Motion seconded.

PRESIDENT: It has been moved and seconded that the name of Dr. Sarles be substituted for that of Dr. Van De Erve on the Committee on Medical Education. All those in favor of this motion will manifest it by saying "aye"; opposed, "no".

Motion carried.

PRESIDENT: Dr. Sarles is unanimously elected. Now will someone move the adoption of the report of the committee as a whole.

DR. L. A. POTTER, Superior: I move, Mr. Chairman, the adoption of the report of the Committee on Nominations.

Motion seconded.

Motion put and carried.

DR. EDWARD EVANS, La Crosse: Mr. Chairman and Gentlemen. I have here a telegram from the secretary of the Chamber of Commerce at La Crosse, which I should like to read to the House of Delegates at this time. The telegram reads: "Do all you can to bring the State Society to La Crosse next year." That is a telegram from the secretary of our Chamber of Commerce at La Crosse, in which he requests me to do all I can to bring the State Medical Society to La Crosse for its meeting next year.

PRESIDENT: Dr. Evans, this matter came up before the House of Delegates yesterday, and the decision as to where the next meeting is to be held, is left entirely to the Council, which meets directly after the close of this meeting.

DR. EVANS: I should like to get the sense of the House of Delegates on the matter.

PRESIDENT: I call for an expression of opinion on the invitation from La Crosse.

DR. W. T. SARLES, Sparta: Mr. Chairman, I move that the invitation be accepted. The west side of the state does not get much.

PRESIDENT: Accepted by the House of Delegates and referred to the Council.

Motion seconded.

Motion put and carried.

PRESIDENT: La Crosse has unanimously got it, so far as the House of Delegates is concerned.

I will appoint Dr. Patek and Dr. Smith to escort the President-Elect, Dr. Bardeen, to the chair. (Applause.)

(Dr. Bardeen was escorted to the chair by Drs. Patek and Smith.)

PRESIDENT HAYES: Dr. Bardeen, I congratulate you on your election.

PRESIDENT-ELECT C. R. BARDEEN, Madison: Thank you, Mr. President. I thank you very much, Gentlemen, for the honor conferred upon me. I suppose that it is more in recognition of what the University is trying to do in the way of medical education than anything personal.

I would like to take occasion to suggest that the very fruitful thought of President Hayes, as to a national medical school be pushed a little further than the House of Delegates has done so far. I think rather than merely turning the suggestion over to the Council of Medical Education of the American Medical Association, that it might be a good thing if the House of Delegates here would make a positive recommendation. Dr. Rucker, whom many of you knew when he was Health Officer in Milwaukee, is now in charge of the War Risk Insurance Bureau, which directs the care of discharged soldiers and sailors disabled in the war. As I understand it, there is contemplated the building of a rather large hospital for the Public Health Service, probably in Chicago. There have also been schemes on foot, as I understand, on the part of the Army, and on the part of the Navy, to have large hospitals built. It seems to me that this suggestion of Dr. Hayes is singularly pertinent at this time, because if these hospitals are actually built (one hospital has already been built in Chicago for the Army, but I understand not yet accepted, the so-called Speedway Hospital) it seems to me they might offer an opportunity for establishing a big post-graduate medical

school. The physicians of the Army, the Navy, and the Public Health Service, who need training along special lines, could be trained in these hospitals. Courses of the kind Dr. Hayes described so efficiently yesterday could likewise be established in them. It seems to me that now is the time to push this idea along if there is any way to make it effective.

DR. EDWARD EVANS, La Crosse: Mr. Chairman, I would like to make this suggestion, and I am not making it as a motion, but as a suggestion to the Chair, that a good thing to do with this would be to appoint a committee to deal with this matter of post-graduate work, and if we can get the right committee they can do much, and it has occurred to me also that our incoming President, who has a very large acquaintance in our country in the line of medical education, together with Dr. Sarles, who is a member of the Council of the American Medical Association, and Dr. Dearholt, who has an international acquaintanceship in progressive medicine in this country, were appointed as such a committee, that they could do a great deal towards forwarding this movement, and putting Wisconsin in the front ranks in pushing the plan to completion.

PRESIDENT: Are there further remarks or suggestions to be made along this line?

DR. C. R. BARDEEN, Madison: I might suggest, Mr. President, that if such a committee be appointed, that Dr. Jermain be included. He is, of course, highly interested in medical education, and is already on the Committee on Education of this Association.

PRESIDENT: Dr. Sarles, you are the wise man of Wisconsin, and we would like to hear from you on this matter.

DR. W. T. SARLES, Sparta: Mr. President and Gentlemen. I agree with everything that has been said by Dr. Bardeen, and personally I would rather see Dr. Jermain placed on that committee than myself. Of course as trustee of the American Medical Association, I am having a great deal of outside work, especially as a member of the Executive Committee, which meets once a month in Chicago. We are now starting a surgical journal, also, which will come out the 1st of January, and we are almost doubling the capacity of our building down there. I think that Dr. Jermain and Dr. Bardeen would be the two best representatives from our state, and I suggest that Dr. Edward Evans be placed on that committee instead of myself.

DR. EDWARD EVANS, La Crosse: Dr. Sarles, you can do so much work on the quiet.

DR. H. E. DEARHOLT, Milwaukee: Mr. Chairman and Gentlemen. I should like to endorse what Dr. Sarles has said concerning the desirability of Dr. Evans being a member of this committee, because I think that, aside from the men who are closely identified either with Marquette University, or the University of Wisconsin, there is no man in Wisconsin medicine who has been so closely identified with fine, high ideals in scientific medical education as Dr. Evans has been. And while I do not endorse Dr. Sarles' suggestion that he be taken off this committee I do feel that Dr. Evans certainly should be a member of this committee. There is no reason in the world why I should be on such a committee. Anything that I can do as a physician or as a propagandist in this direction I shall be only too glad to do, but would rather do it as a servant of this committee than as a member of it.

PRESIDENT: Does anyone else wish to speak on this subject?

DR. W. T. SARLES, Sparta: Mr. Chairman, I want to see Dr. Evans on that committee. I can do enough work from the inside; that is, I can do far more than I could if I was a member of the committee, and I know that Dr. Evans has studied the question far more than I have from that standpoint, and I would like to see his name on it.

PRESIDENT: We will put Dr. Evans' name on that committee.

DR. WILSON CUNNINGHAM, Platteville: Mr. Chairman, a point of order. I think it is necessary in order to put this matter before the House of Delegates, to make a motion to that effect. At the meeting of the House of Delegates we voted this matter be referred to the delegates of the American Medical Association, through our delegates.

PRESIDENT: Through our committee, you mean?

DR. CUNNINGHAM: No, the motion was made and carried to refer this matter to the House of Delegates of the American Medical Association through our delegates.

PRESIDENT: You have Dr. Jermain and Dr. Bardeen on that committee, and allowing the Chair to offer a suggestion, I think it preferable not to have anyone connected with a university on said committee. Dr. Evans is not connected with any school, neither is Dr. Dearholt connected with any school.

DR. DEARHOLT: Yes, I am, indirectly.

PRESIDENT: Of course this is only my own opinion, probably not worth much, but I think it wiser to select members not connected with any schools. Don't you think so, Dr. Evans?

DR. EVANS: Yes, sir, perhaps so.

SECRETARY SLEYSTER: Is this a special committee? I rise to a point of information. It seems to me that this matter is being referred to the Committee on Medical Education.

DR. W. F. ZIERATH, Sheboygan: We will have to rescind the action of yesterday.

SECRETARY SLEYSTER: The Committee on Medical Education is a committee of three members according to our constitution and by-laws. We have already elected

that committee. The only thing that you can do to change that committee, is to recall the election of Dr. Van De Erve and substitute the name of Dr. Evans. The committee was elected this morning when the report was accepted. Now it will be necessary to recall Dr. Sarles' election, and elect Dr. Evans in place of Dr. Sarles. The other two members are elected. You cannot put on a fourth member.

DR. SARLES: Who are the other members?

SECRETARY SLEYSTER: Dr. Jermain and Dr. Bardeen.

PRESIDENT: The committee would then consist of Dr. Jermain, Dr. Bardeen and Dr. Evans.

SECRETARY SLEYSTER: Dr. Evans is not elected.

DR. SARLES: I move, Mr. Chairman, that the name of Dr. Evans be substituted for my name on that committee.

Motion seconded.

PRESIDENT: It has been moved and seconded that Dr. Evans be elected a member of this committee instead of Dr. Sarles. All in favor of that motion will manifest by saying "aye"; opposed, "no".

Motion carried.

SECRETARY SLEYSTER: That settles the matter. We now have Dr. Evans, Dr. Bardeen and Dr. Jermain on that committee. If someone will now make a motion to refer this matter to the Committee on Medical Education, instead of to the delegates of the Wisconsin Medical Association to the A. M. A., that will settle the matter.

DR. WILSON CUNNINGHAM, Platteville: I move, Mr. Chairman, that we rescind the action of referring the matter to the American Medical Association through our delegates and that it be done through this committee.

Motion seconded.

PRESIDENT: The motion is that the action referring this matter to the delegates to the American Medical Association be rescinded, and that the matter be referred to the Committee on Medical Education?

DR. CUNNINGHAM: Yes.

Motion put and carried.

PRESIDENT: The prior action is now rescinded, and the matter referred to the Committee on Medical Education.

Is there anything else that any of the members would like to bring before the House of Delegates before we adjourn? If so, we will call for same under the head of Miscellaneous Business. Now is your time, if you have anything to suggest.

SECRETARY SLEYSTER: Mr. Chairman, I think while we are together it might be well to discuss the matter of program. In the past it has been customary for the State Society to hold a program made up almost entirely of the members of the State Society, importing only two or three men from the outside to take part, a man to make the address in surgery, and a man to make the address in medicine. This year the program has been made up without any outsiders. However, as secretary I have had member after member come to me and talk of the wonderful programs that the Tri-State District Society are holding, and how poorly our programs compare with theirs. The comparison is only made that they import a large number of men from all over the United States to furnish them their scientific program, and we have not been doing that. I think it would be well for the House of Delegates and members present to express an opinion as to how you want the program conducted in the future. If it is the sense of the Society that they want more men brought in from the outside, I think the men who are to make up the program next year should be advised of that fact. If the Society desires to continue its present plan of furnishing our own program, encouraging the writing of papers by our own members, and importing only two or three men, the program committee should be so advised. I think everyone responsible for the program next year would certainly like to know how the members feel regarding the matter.

PRESIDENT: There is one point that I have noticed at all of our meetings, and that is when the members arrive they are at a loss how to proceed and where to go. I presume if we go to La Crosse next year it will not be possible for us to get a building large enough to hold all of the sections, and that we will have meetings in different places. If we have a committee that has worked hard, it is the Committee on Arrangements, but they cannot be here to conduct men to the different places they are to go. I think it would be a splendid thing if the Society would employ a young doctor or student, or someone else to head a bureau of information, who can direct the delegates as they arrive as to the location of the hotels. Heretofore there has been a lack of such information.

DR. C. E. NYSTRUM, Medford: Mr. Chairman, I think it would be a good idea to have the best men in the country come before the State Medical Society of Wisconsin. The men back in the country generally have to come to the medical centers to get their information and carry it back home, and I think the more prominent the men, and the more able the men, the more enlightenment we will get, and the more liable the most of us are to come here to the meetings, and the more enthusiasm there will be in the State Medical Society.

SECRETARY SLEYSTER: Dr. Evans, let us hear from you on this question of getting up the program.

DR. EDWARD EVANS, La Crosse: Mr. Chairman, I do not know how many doctors have given attention to the influence the movies are having on the cerebral activity of our population. Our brains will soon be in a condition similar to what our intestinal tract would be if we were continually fed on predigested food. And if there is not brains enough in the profession of Wisconsin to make a program worth while, aside from calling in an orator in surgery or medicine, as we have heretofore done, then I think we ought to disband. There was a time when the medical profession got all of its therapeutics from the proprietary houses. I thought we were getting away from that. I think our program ought to be made up in Wisconsin, and the program ought to be

hy Wisconsin men, except for an attraction, perhaps, which hrings some more men. And when I got up the program, as I did a few times, I think we got our best papers from the men out in the country, and that is where we ought to get them from. That is the sort of stuff we want. I do not think the program lacks in scientific merit this year. I do not think that the programs of the Wisconsin State Medical Society do lack in scientific merit as compared with other programs. This thing of comparing our work with the Tri-State Society, which is a great big three tent circus parade, is not anything that we need to think very much about.

Dr. A. J. Patek, Milwaukee: Mr. Chairman and Gentlemen. I am endorsing what Dr. Evans has said about program making. I have also been instrumental once or twice in helping to prepare programs for the State Medical Society, and I do helieve, comparing our work with that of many other states, and when represented hy our own men, that the programs have loomed pretty large. The plan that had been in vogue for so many years, of having one or two speakers, one speaker at each section, medical and surgical, was one that was favorahly received hy the men in the State Society, and personally I think that it is an excellent plan, hut I do feel that the hulk of the program ought to he a Wisconsin-made program. There is no reason, as far as I can tell, why such a program should not be one sufficiently good to attract almost anybody from the various corners of the state.

President: Is there any other member that wishes to express an opinion on this suhject of program-making?

Dr. H. E. Dearholt, Milwaukee: Mr. Chairman, may I say a word? I think the question of whether we have a meeting or not, or a large attendance, is the least important thing in the history of an association of this sort. Getting a large numher of hig men from the outside to come in and merely register at the desk, has been, as Dr. Evans has expressed it, a more or less circus type of advertising, and does not touch the real value of the Medical Society. I think if we could only center on that one idea that Dr. Evans has stood so strongly for, viz., that we should not have text hook papers, we will get hetter results. It is not so very important that we have hrilliant papers. The all important thing is whether or not the Medical Society meeting represents some original hard thinking that has heen done hy a group of Wisconsin doctors during the year. We have in this community and around ahout us all kinds of medical prohlems that have not heen solved, and I wish that something a little more definite might he done in the way of our trying to center on some of our problems. I have in mind notahly goitre. We are supposed to be right in the heart of the goitre helt; we do not know whether we are or not. Nohody has done any real scientific work on that question. If we are or if we are not, should he determined. We have ahundant opportunity. The accumulated results of work that has been done at the University of Wisconsin, for example, on goitre, among men and women, and the work that has been done at the Milwaukee Downer College on goitre, among women, and the magnificent opportunities that we have to survey this prohlem in our state institutions, with our medically inspected schools, should be brought together and hrought out at one medical meeting. I can say that we would have a great medical meeting if that were done. We know furthermore that some of the worst papers that have ever heen presented in our history have heen hy imported hig men, who had a very supercilious idea ahout us, and came to talk to us as though we were a bunch of school children and did not know anything; they patronized us; they have come on here from New York and Boston and Philadelphia, and patronized us, and some of us have stood for it and applauded them for doing it Now I think if we can center on the idea, first, that we shall have no text book papers, and second, that we shall make every kind of an effort to stimulate the medical men of Wisconsin to do original work, do some investigating and report upon it at these meetings, that we will make our meetings more worth while than we could do hy merely heing ahle to say that at such and such a meeting we had 500 registered, or we had 1,000 registered. That is the least important part of the meeting.

President: I will call on Dr. Bardeen, who has long been connected with one of the departments of the University, and who has, I presume, gone pretty nearly through the mill on all these matters.

Dr. C. R. Bardeen, Madison: Mr. President, I understand that we now have a new section in the State Medical Society, on Puhlic Health and Preventive Medicine. That makes four sections, medicine, surgery, eye, ear, nose and throat, and puhlic health. I would suggest that for each of these sections a topic of general interest he selected for the main part of the program and that this topic be treated from several points of view; from the national point of view hy an authority from outside the state, if such an authority can be secured; from the urban point of view by a competent practitioner from one of the larger cities within the state; from the rural point of view hy one whose practice is largely rural. On some suhjects it might he well also to have the laboratory point of view from a lahoratory worker. Suppose, for instance, that for the medical section goitre he chosen as the main topic for a given year. We might get a man like Kendall or Marine from outside the state to give us some of the latest advances from the experimental point of view, then have some Milwaukee physician treat the suhject from the urban standpoint and one or more men from the smaller towns treat it from the rural standpoint. Similar programs could he arranged for each of the other sections. The general program could he arranged, if so desired, so that that part of each special section likely to he of most general interest would be held at such a period as to make it possihle for memhers of other sections to attend. Thus we would schedule nothing for the other sections at the period set aside for a talk on goitre hy Kendall hefore the medical section. The main thing is to take up but a few subjects each year, to take up subjects of daily interest, rather than the rare and relatively unimpor-

tant, to have these subjects taken up from different points of view and to keep plenty of time on the program for general discussion. It is not so important for a man who has attended a meeting to be able to boast of the celebrities he has seen and heard as it is for him to feel that he has really learned something that will be of use.

DR. W. T. SARLES, Sparta: Mr. Chairman, I want to endorse what Dr. Bardeen has said. I think Dr. Bardeen has the right idea. Let the President and Secretary or Chairman of each department be the committee. I think in the past we have appointed the committees at random, when the men have not studied the subject. I think such a plan would become so interesting that nobody would want to miss the State Medical Society meeting. Twenty years ago when I was president of this Society I read a paper on the advisability of dividing surgical and medical subjects, and for four or five years it was fought as not being popular. Men wanted to hear everything that was going on everywhere. An impossible feat. Occasionally there is a man, as Dr. Bardeen has said, who is a national authority, whom all want to hear. I believe that Dr. Bardeen has given us the correct idea.

PRESIDENT: Is there any other member who wishes to make any remarks on this subject?

DR. JOSEPH SMITH, Wausau: Mr. Chairman, I think that Dr. Bardeen's idea is an excellent one. I believe, however, that the matter of division of the Society into sections can be carried too far. We want to be careful about that. There are certain points of contact between these various sections, certain matters of common interest that ought to be maintained. I think that the general meetings ought to receive a good deal of attention, and that subjects should be provided for discussion at those general meetings, of interest to all of the members of all of the sections, and in that way preserve the unity of the organization.

PRESIDENT: If there is nothing further to be said on this subject, I wish to say that I know and feel that the advice that we have had from the delegates this morning will be of great benefit to the incoming officers, and we hope that we will have a wonderful program next year. We are here to improve, and we are here in the interest of the Society only, not for our own interest, and everything that is for the good of the Society should be adopted. We want this Society to be the best state society in the Union, and the only way we can do this is to work for it as we are doing this morning. If there is nothing further to come before the House of Delegates a motion to adjourn is in order.

Motion made, seconded and carried to adjourn to 8:30 a. m. next day, Oct. 3rd, 1919, at the Auditorium.

HOUSE OF DELEGATES

SESSION OCTOBER 3RD, 1919, 8:30 A. M.

Meeting called to order by the President, DR. D. J. HAYES, Milwaukee.

PRESIDENT: We will listen to the reading of the minutes of the last meeting.

(Minutes of last meeting read.)

PRESIDENT: If there are no alterations to be made, or objection to the minutes, they will stand approved as read.

I understand that Miss Morrison is here this morning and would like to present a few words in behalf of the schools.

MISS MORRISON: Mr. Chairman and Gentlemen. I have a communication that is backed by the teachers of the High Schools, which I would like to read to the Wisconsin State Medical Society.

RESEARCH BUREAU,

Milwaukee, Oct. 2, 1919.

Wis. Medical Society,
Milwaukee, Wis.

Gentlemen: The Research Bureau of Wisconsin, composed largely of Teachers of Biology, are placing before the High School students of the state, the necessity of a thorough Biologic training,—to the end that they may be ready to take up the advanced microscopic work that is demanded at all the Universities today, in the study of protozoic and bacterial infection. This, not only in the pre-medical courses, but in all courses having to do with sociologic work and betterment work generally.

As Prof. Asa Chandler, one of the foremost scientists of the West Coast, says, "One of the most pressing needs of the present time is the education of the people as a whole"; on these very subjects. Dr. Chandler (ANIMAL PARASITES AND HUMAN DISEASE, just off the press) says also, that "Popular ignorance of the many important facts connected with preventive medicine—is deplorable. The aim of this volume is to present the important facts of PARASITOLOGY in such a manner as to make it useful to physicians—to Teachers of Hygiene,—to College and High School Students,"—so that this volume and Keen's "MEDICAL RESEARCH AND HUMAN WELFARE" will be our basis of study. Our work is purely educational, and as such we will be pleased to co-operate with you in your PREVENTIVE work.

In the schools of this country the Ecto-parasites are fought to a finish. It is time that the Endo-parasites, also, be recognized, all too often they circulate "in cognito."

The parasitic protozoa are now recognized as agents of many chronic infestions that imperil the health of the student body. Major General Keen's volume details these, also the bacterial infections, in such simple language, it should be in every high school library, for supplementary reading.

As we have said, our Bureau will do purely educational work, and we will be pleased to hear that you approve of our movement.

Yours respectfully,
LUCIE HARMON,
Sec'y. West Division High School,
22nd and Prairie Sts.,
Milwaukee, Wis.

MISS MORRISON: If the students realize, as High School students do not often realize, that they cannot do research work and sociologic work without a foundation in biology we are sure they will take up that study. Of course where they see it will have an interest to them later in life, they will have an added zest in the study.

SECRETARY SLEYSTER: Do you wish the House of Delegates to endorse this movement, or what was the wish of the teachers?

MISS MORRISON: Simply to recognize it, and are glad to see this interest in the study.

PRESIDENT: Is there anything else to come before the Society, Mr. Secretary?

SECRETARY SLEYSTER: Nothing else that I know of, Doctor. To bring this matter before the House of Delegates I would move that the House of Delegates of the State Medical Society of Wisconsin endorse this movement to encourage the study of biology in the public schools.

Motion seconded.

Motion put and carried.

PRESIDENT: If we are through with the business, a motion to adjourn is in order.

Motion made to adjourn.

Motion seconded and carried.

LIST OF MEMBERS OF THE STATE MEDICAL SOCIETY OF WISCONSIN, 1919

Abaly, W. C., Madison.
Abbott, LeRoy, Ontario.
Abelman, T. C. H., Watertown.
Abraham, H. W., Appleton.
Ackerly, A. W., National Home.
Ackerman, Wm., Milwaukee.
Ackley, S. B., Oconomowoc.
Adams, G. F., Kenosha.
Adams, J. C., Superior.
Addleman, I. M., Wausau.
Ainsworth, H. H., Madison.
Albers, H. H., Allenton.
Alcorn, D. N., Stevens Point.
*Alderson, J. C., Wausau.
Aldridge, H. W., Manitowoc.
Alexander, Sara W., Hudson.
Alexander, W. S., Oakfield.
Allen, C. F., Middleton.
Allen, Jessie P., Beloit.
Allen, L. P., Oshkosh.
Allen, Wm. E., Barrington, Ill.
Allen, Wm. J., Beloit.
Allison, Elizabeth, New York.
Amundson, Karl K., Cambridge.
Amundson, Philip B., Mondovi.
Anderson, Carl M., Wild Rose.
Anderson, Harold B., Beloit.
Anderson, Jens, Racine.
Andrae, R. W., Plainfield.
Andre, F. E., Kenosha.
Andrew, C. H., Platteville.
Andrew, G. F., Prairie du Chien.
Andrews, C. W., Waupaca.
Andrews, E. P., Portage.
Andrews, Malcom P., Manitowoc.
Andrews, Neil, Jr., Oshkosh.
Andrus, A. P., Ashland.
Antoine, F. J., Prairie du Chien.
Aplin, F. W., Waukesha.
Armbruster, B. F., Milwaukee.
Armitage, John E., Milwaukee.
Armstrong, C. A., Prairie du Chien.
Armstrong, C. E., Oconto.
Armstrong, Guy, Pound.
Arnold, F. W., Milwaukee.
Arveson, Ray, G., Fredcric.
Ashley, T. W., Kenosha.
Ashum, David W., Eau Claire.
Aubin, Jos. N., Peshtigo.
Aus, J. L. N., Deer Park.
Austria, W. F., Merrill.
Axley, A. A., Butternut.
Axtell, E. F., Marinette.
Axtell, Luella E., Marinette.
Aylward, Richard C., Madison.
Baasen, J. M., Mt. Calvary.
Babcock, Frank, Cumberland.
Babcock, I. G., Cumberland.
Bach, J. A., Milwaukee.
Bachhuber, A. E., Mayville.
Bachhuber, L. M., Mayville.
Baer, A. N., Milwaukee.
Baer, C. A., Milwaukee.
Bailey, Mark A., Fennimore.
Bair, F. M., Lake Mills.
Baird, John, Superior.
Baird, J. C., Eau Claire.
Baker, G. R., Tomahawk.
Baker, J. H., Bryant.

*Deceased.

Baker, J. C., Hawkins.
Baker, W. F., Wausau.
Baldwin, F. H., Bloomington.
Baldwin, G. E., Green Lake.
Balkwill, C. A., Grafton.
Bancroft, H. V., Blue Mound.
Banks, W. H., Hudson.
Banneu, W. E., La Crosse.
Barber, J. C., Marathon.
Bardeen, C. R., Madison.
Barnes, E. C., Ripon.
Barnes, H. T., Pewaukee.
Barnes, J. S., Milwaukee.
Barnette, J. R., Jr., Neenah.
Barnstein, Chas., Timothy.
Barnstein, J. E., Manitowoc.
Barrett, E. J., Sheboygan.
Barta, E. F., Milwaukee.
Barth, G. P., Milwaukee.
Bartran, W. H., Green Bay.
Batcheller, Gertrude, Madison.
Batchelor, W. A., Milwaukee.
Bath, Dane H., Oshkosh.
Batty, A. J., Portage.
Bauch, Chas. W., Milwaukee.
Bauer, K. T., West Bend.
Baum, E. L., Milwaukee.
Baur, E. F., Milwaukee.
Bayer, W. H., Gleason.
Baer, W. G., Monroe.
Bechmann, C. R., Rock Island, Ill.
Beck, A. A., Coloma.
Becker, B. A., Silver Lake.
Becker, W. F., Milwaukee.
Bedford, E. W., Marinette.
Beebe, C. M., Sparta.
Beebe, C. S., Milwaukee.
Beebe, L. W., Superior.
Beebe, P. A., Glenwood City.
Beebe, S. D., Sparta.
Beech, Geo. D., Adams.
Beeson, H. B., Cornell.
Beffel, J. M., Milwaukee.
Beier, A. L., Chippewa Falls.
Belitz, Alfred, Pepin.
Belitz, Wm., Cochrane.
Bell, A. R., Tomah.
Bellack, B. F., Columbus.
Bellis, G. L., Wauwatosa.
Bellin, Jos. J., Green Bay.
Bellin, Julius J., Green Bay.
Belting, G. W., Orfordville.
Bender, Jesse, Ithica.
Bendixen, B. O., Kewaskum.
Bennett, Louis J., Ft. Atkinson.
Bennett, W. C., Denver, Colo.
Benson, G. H., Richland Center.
Bent, Xenna P., Benton.
Bentley, J. E., Portage.
Berger, A. J., New Holstein.
Berglund, S. A., Marinette.
Beringer, L., Plymouth.
Bernhard, A., Milwaukee.
Bertrand, J. H., De Forest.
Betz, J. C., Boscobel.
Beutler, W. F., Wauwatosa.
Beyer, H., Pittsville.
Bickel, E. F., Oshkosh.
Bill, B. J., Genoa Junction.
Bilstad, G. E., Cambridge.
Binnewies, F. C., Janesville.

Binnie, Helen A., Poyuette.
Bird, H. R., Madison.
Bird, M. D., Marinette.
Black, N. M., Milwaukee.
Blackburn, F. E., Cassville.
Blair, J. C., Hazel Green.
Blanton, Smiley, Randall's Island, N. Y.
Blekking, J. H., Sheboygan Falls.
Blewett, M. T., Markesan.
Blumenthal, R. W., Milwaukee.
Blumer, Edw., Monticello.
Bock, Otto B., Sheboygan.
Bodden, A. M., Milwaukee.
Boerner, R. W., Milwaukee.
Boger, T. A., Milwaukee.
Bolton, E. L., Chilton.
Booher, J. S., Richland Center.
Boorse, L., Milwaukee.
Borchardt, A. C., New London.
Borden, F. R., Plainfield.
Boren, C. H., Marinette.
Boren, J. W., Marinette.
Bornstein, Max, Milwaukee.
Bossard, C., Richfield.
Bossard, M., Spring Green.
Bowen, C. F., Richland Center.
Bowen, E. W., Watertown.
Bowen, H. P., Johnson Creek.
Boyce, S. R., Madison.
Boyd, C. D., Kaukauna.
Boyd, G. T., Fond du Lac.
Boyer, E. R., Rhinelander.
Boynton, R. D., Grand Marsh.
Bradbury, E. L., Neillsville.
Bradfield, J. A. L., La Crosse.
Bradford, E. B., Hudson.
Brady, D. L., Cuba City.
Bradley, H. E., Milwaukee.
Brah, A. J., Milwaukee.
Braun, Otto, Ashland.
Braun, Robt. F., Milwaukee.
Brazeau, G. N., Milwaukee.
Breckenridge, H. E., Racine.
Breeden, Roy F., Richland Center.
Brehm, H. J., Racine.
Brehm, Theodore, Racine.
Brewer, J. C., Jefferson.
Brey, P. F., Milwaukee.
Briggs, S. J., Madison.
Broache, A. H., Oshkosh.
Brockway, Frank, Oshkosh.
Broghammer, F. J., Superior.
Brook, J. J., Milwaukee.
Brooks, E. H., Appleton.
Brooks, L. M., Mendota.
Brown, A. D., Mineral Point.
Brown, A. L., Milwaukee.
Brown, E. B., Beloit.
Brown, Frank E., Milwaukee.
Brown, G. V. I., Milwaukee.
Brown, H. M., Milwaukee.
Brown, I. M., New London.
Brown, J. F., Waupun.
Brown, R. C., Milwaukee.
Brueckbauer, H. G., Sheboygan.
Brunckhorst, F. O., Kewaunee.
Buchan, S. C., Racine.
Buchanan, R. C., Green Bay.
Buck, G. C., Platteville.
Buckley, T. J., Briggsville.
Buckley, W. E., Red Granite.

Buckmaster, S. B., Janesville.
Buehler, J. W., Prairie du Sac.
Bugher, C. E., Ladysmith.
Bunting, C. H., Madison.
Burbach, T. H., Milwaukee.
Burdon, R. M., Green Bay.
Burger, H. E., Beloit.
Burkhart, E. W., Menomonie Falls.
Burns, H. J., Hudson.
Burus, J. W., Oakfield.
Burton, J. J., Milwaukee.
Busse, Alfred A., Jeffersou.
Butler, E. F., Mosiuee.
Butler, F. E., Menomonie.

Cady, M. P., Birnamwood.
Caffrey, A. J., Milwaukee.
Cahana, Stephen, Milwaukee.
Cahoon, Roger, Baraboo.
Cairus, Rolla, River Falls.
Caldwell, H. C., St. Croix Falls.
Calkins, H. J., Shawano.
Callahan, J. L., La Crosse.
Calvey, P. J., Fond du Lac.
Campbell, L. A., Clear Lake.
Campbell, W. B., Waukesha.
Canavan, J. P., Winnebago.
Cantwell, W. H., Shawauo.
Caples, B. M., Waukesha.
Cargill, N. W., Milwaukee.
Carhart, G. A., Milwaukee.
Carmichael, C. S., Heleuville.
Carter, H. M., Madison.
Carter, R. M., Green Bay.
Carthaus, A. H. C., Thiensville.
Cary, E. C., Reedsville.
Cary, L. W., Jacksouville, Fla.
Casey, Merle, Almond.
Cassels, G. S., Pt. Washington.
Caswell, H. O., Ft. Atkinson.
Caughey, C. R., Kenosha.
Cavanaugh, T. E., Milwaukee.
Caveney, J. J., Milwaukee.
Chandler, F. E., Waupaca.
Chaudler, Jos., Pardeeville.
Chaney, Eug., Wauwatosa.
Chapman, F. M., Milwaukee.
Chapman, Vernon A., Milwaukee.
Charbonneau, A., Green Bay.
Charbonneau, E., Superior.
Charrou, T. A., Rice Lake.
Chilson, Benj., Beloit.
Chloupek, C. J., Green Bay.
Chorlog, J. K., Madison.
Christensen, Emil, Two Rivers.
Christensen, F. C., Racine.
Christenson, J. W., Westby.
Christian, E. F., La Crosse.
*Christiansen, C., La Crosse.
Christianseu, Geo., Galesville.
Christofferson, A. L., Kenosha.
Christofferson, P. J., Waupaca.
Churchill, B. P., Milwaukee.
Clark, Burton, Oshkosh.
Clark, F. T., Waupuu.
Clark, M. H., Ripon.
Clark, R. B., Monroe.
Clark, W. T., Janesville.
Clarke, T. C., Oconto.
Clawson, H. E., Red Granite.
Cleary, B. L., Edgerton.
Cleary, J. H., Kenosha.
Clement, W. J., Berlin.
Coerper, E. E., Fredonia.
Coffey, C. J., Milwaukee.
Cohn, A. H., Milwaukee.
Coleman, H. M., Barron.
Collins, D. B., Madison.
Collins, W. P., Racine.
Combacker, H. E., Osceola.
Combacker, L. C., Osceola.
Combs, C. J., Oshkosh.
Comee, William, Seymour.
Conkey, C. D., Duluth, Minn.
Conklin, G. H., Superior.
Conley, J. M., Oshkosh.
Connell, D. R., Beloit.
Connell, F. G., Oshkosh.
Conroy, J. M., Nopeming, Minn.
Cook, C. S., Evansville.
Cook, E. H., Watertown.
Cook, F. S., Eau Claire.
Cooksey, R. T., Madison.
Coon, G. E., Milton Jct.
Coon, J. W., Stevens Point.
Cooney, Ed., Appleton.
Cooper, C. A., Colfax.
Cooper, E. S., Almond.

*Deceased.

Copeland, Ernst, Milwaukee.
Corbett, J. F., Milwaukee.
Corbett, M. E., Oshkosh.
Cornwall, W. B., Amery.
Corr, Anna B., Juneau.
Corr, J. T., Racine.
Corry, F. M., Menasha.
Cottingham, M. D., Lake Geneva.
Couch, E. E., West Allis.
Coumbe, W. R., Richland Center.
Cowles, R. L., Green Bay.
Cox, Bowler.
Crane, M. C., Osseo.
Creasy, L. E., South Wayne.
Cremer, C. H., Cashton.
Crikelair, F. L., Green Bay.
Cristman, E. S., Almena.
Crocker, W. W., Beloit.
Cromuett, H. B., Amery.
Cron, C. O., Camp Douglas.
Crone, V. D., Beloit.
Crosby, E. P., Arnott.
Crowe, N. F., Walworth.
Cummings, J. H., Superior.
Cunningham, J. N., Stanley.
Cunuingham, M. A., Janesville.
Cunningham, R. B., Cadott.
Cunningham, Wilson, Platteville.
Curl, Howard, Madison.
Curless, G. W., Walworth.
Currens, J. R., Two Rivers.
Currer, P. M., Milwaukee.
Curtin, A. L., Milwaukee.
Curtin, J. J., Sawyer.
Curtiss, F. D., Kenosha.
Cushing, Eleanore, Milwaukee.
Cutler, J. S., Wauwatosa.
Cutter, J. D., Tomahawk.

Dailey, P. J., Elcho.
Dake, A. J., Viola.
Dallwig, H. C., Milwaukee.
Daua, A. C., Fond du Lac.
Danforth, Q. H., Omro.
Daniels, L. J., Milwaukee.
Daniels, W. N., Mosinee.
Darby, G. S., Brodhead.
Darling, Earl, Milwaukee.
Darling, F. E., Milwaukee.
Darling, Walt. G., Milwaukee.
Davelaar, G. W., Milwaukee.
Davies, R. E., Waukesha.
Davin, C. C., Weyerhauser.
Davis, Elmer, Richland Center.
Davis, F. A., Madison.
Dawley, G. T., New London.
Dawson, C. A., River Falls.
Dawson, D. L., Rice Lake.
Dean, J. P., Madison.
Dean, Jos. P., Madison.
Dearholt, H. E., Milwaukee.
De Besch, J. A., Milwaukee.
Decker, C. O., Crandon.
Decker, H. J., Milwaukee.
DeCock, J. L., Angelica.
Deicher, H. F., Plymouth.
Delaney, H. O., Beloit.
Delap, R. H., Richland Center.
Del Marcelle, C. C., Neenah.
DeNeven, A. C., Wyocena.
Denham, J. F., Boyceville.
Dennis, Jas. F., Waterloo.
Derge, H. F., Eau Claire.
*Dernehl, Paul, Milwaukee.
De Swarte, L. T., Milwaukee.
Devine, C. B., Marshall.
Devine, Hubert, North Fond du Lac.
DeVoe, C. A., Berlin.
Dewey, R. F., Wauwatosa.
DeWire, M. V., Sharon.
Diamond, J. A., Frederick.
Dickenson, G. H., Milwaukee.
Differt, C. C., Milwaukee.
Dill, G. M., Prescott.
Dodd, J. M., Ashland.
Doege, K. W., Marshfield.
Doern, W. G., Milwaukee.
Doerr, Aug., Milwaukee.
Dohearty, F. P., Appleton.
Dohearty, W. H., Peshtigo.
Domann, W. G., New Butler.
Donaldson, G. F., Shiocton.
Donnell, J. E., Cuba City.
Donnelly, F. J., Monches.
Donohue, E. J., Antigo.
Donohue, M. J., Antigo.
Donohue, W. E., Manitowoc.
Donovan, J., Milwaukee.
Doolittle, J. C., Lancaster.
Doolittle, S. W., Lancaster.

Dougherty, C. F., Richland Center.
Douglas, F. A., La Crosse.
Doyle, J. H., Little Chute.
Doyle, John N., Neshkora.
Drake, F. I., Mendota.
Draper, M. H., Deerfield.
Drew, R. J., Alma Center.
Drexel, A., Milwaukee.
Dreyer, R. A., Wheeler.
Dries, Jos., Milwaukee.
Driessel, H., Barton.
Driessel, S. J., Barton.
Drissen, W. H., Pt. Washington.
Duclos, A. A., Kilbourn.
Du Frenne, M. F., Middleton.
Dunn, E. A. A., Platteville.
Durr, W. E., Milwaukee.
Dusenhury, G. E., Amherst.
Dwight, C. G., Madison.

Eames, H. F., Egg Harbor.
Eastman, J. R., Kenosha.
Echols, C. M., Milwaukee.
Eck, G. E., Lake Mills.
Edwards, A. C., Arcadia.
Edwards, W. A., La Crosse.
Egan, G. J., La Crosse.
Egan, W. J., Milwaukee.
Egland, G. R., Sturgeon Bay.
Egloff, L. W., Pewaukee.
Ehmer, J. W., Lomira.
Eickelberg, F. A., Reesville.
Eichelberger, W. W., Evansville, Ind.
Eidam, L. W., La Crosse.
Ekblad, V. E., Superior.
Elfers, J. C., Sheboygan.
Ellenson, E. P., Chippewa Falls.
Elliott, E. S., Fox Lake.
Elliott, J. T., Rhinelander.
Ellis, W. E., White Lake.
Ellis, W. H., Barron.
Elmergreen, R., Milwaukee.
Elsom, J. C., Madison.
Elvis, E. B., Medford.
Engsberg, W. A., Lake Mills.
Ennis, S. A. J., Shullsburg.
Epley, O. H., New Richmond.
Erdlitz, F. J., Menominee, Mich.
Erdman, C. H., Stanley.
Erickson, H. C., Stanley.
Evans, C. A., Milwaukee.
Evans, E., La Crosse.
Evans, E. P., Milwaukee.
Evans, J. S., Madison.
Evans, Owen, Bangor.
Eyster, J. A. E., Madison.

Faber, C. A., Milwaukee.
Fairfield, W. E., Green Bay.
Falk, V. S., Stoughton.
Farnham, C. R., Milwaukee.
Farnsworth, A. L., Baraboo.
Farnsworth, F. B., Janesville.
Farr, J. F., Eau Claire.
Farrell, A. M., Two Rivers.
Faulds, R. C., Abrams.
Fazen, L. E., Racine.
Fechter, F. J., Elkhart Lake.
Federman, E. H., Montello.
Federspiel, M. M., Milwaukee.
Fellman, G. H., Milwaukee.
Felter, Edw., Plymouth.
Fenelon, C. D., Phillips.
Festerling, E. G., Reedsville.
Fickes, H. C., Owen.
Fidler, C. A., Milwaukee.
Fiebiger, G. J., Waterloo.
Fiedler, O. A., Sheboygan.
Field, F. T., Elroy.
Fifield, G. W., Janesville.
Finney, W. H., Clintonville.
Fischer, B. B., Wild Rose.
Fisher, R. F., Wausau.
Fitzgerald, J. J., Eagle.
Fitzgerald, R. E., Milwaukee.
Fitzgibbon, W., Milwaukee.
Fitzpatrick, M. L., Milwaukee.
Flanagan, G. J., Kaukauna.
Flatley, M. A., Antigo.
Fleek, J. L., Brodhead.
Fleming, E. E., Wausau.
Fletcher, E. A., Milwaukee.
Fletcher, F. E., Ashland.
Fletcher, Wm., Salem.
Fleury, F. D., Omro.
Flynn, L. H., Eau Claire.
Flynn, R. E., La Crosse.
Foat, J. S., Ripon.
Foerster, O. H., Milwaukee.
Foley, F. P., Dorchester.
Foley, L. J., Milwaukee.

Folsom, W. H., Fond du Lac.
Force, O. O., Pardeeville.
Ford, W. B., Milwaukee.
Forkin, G. E., Menasha.
Fortler, C. A. H., Milwaukee.
Fortner, W. H., Princeton.
Fosse, B. O., Beloit.
*Foster, A. M., Kaukauna.
Fowle, F. F., Wauwatosa.
Fowle, I. H., Milwaukee.
Fowler, J. H., Lancaster.
Fowzer, L. R., Manawa.
Fox, G. W., Milwaukee.
Fox, Paul A., Beloit.
Fox, Phillip, Madison.
Fox, Phil. A., Milwaukee.
Fox, P. R., Madison.
Fox, Wm. E., Milwaukee.
France, J. J., Milwaukee.
Frances, J. H., Bloomer.
Francois, S. J., New Glarus.
Frank, John H., Milwaukee.
Frankel, A. H., Milwaukee.
Franklin, I., Milwaukee.
Franklin, S. N., Milwaukee.
Franzel, J. E., Ft. Atkinson.
Frawley, R. M., Wausau.
Freudenberg, J. A., Markesan
Frew, J. W., Milwaukee.
Frey, F. H., Wausau.
Frey, P. G., Washburn.
Frick, Lewis, Athens.
Friedrich, R. O., Milwaukee.
Friend, L. J., Merrill.
Froggatt, W. E. L., Cross Plains.
Fucik, E. J., Williams Bay.
Fuldner, Louis, Milwaukee.
Fulton, H. A., Eau Claire.
Fulton, W. A., Burlington.
Furstman, J. M., La Crosse.

Gaenslen, F. J., Milwaukee.
Gallogly, M. J., Milwaukee.
Galloway, A. D., Clayton.
Ganser, W. J., Madison.
Gates, A. J., Tigerton.
Gates, Eugene, Two Rivers.
Gault, J. A., Lancaster.
*Gauvreau, E. T., Superior.
Gavin, S. E., Fond du Lac.
Gendron, A. E., River Falls.
Genter, A. E., Sheboygan.
Gephart, C. H., Kenosha.
Gerend, A., Stratford.
Germano, G., Kenosha.
Gibbs, G. L., Marshall.
Giesen, C. W., Superior.
Gifford, H. B., Juda.
Gilbert, H. A., Madison.
Gilchrist, R. T., Milwaukee.
Gilles, A. S., Waukesha.
Gillespie, W. W., Milwaukee.
Gimson, Esther, Wisconsin Veterans Home.
Glasier, M. B., Bloomington.
Gleason, C. M., Oconomowoc.
Gnagi, W. B., Monroe.
Gobar, G. G., Muscoda.
Goddard, J. B., Eau Claire.
Godfrey, Jos., Lancaster.
Godfrey, Rush, Lancaster.
Goetsch, O. F., Hustisford.
Goggins, G. F., Wrightstown.
Goggins, J. W., Malone.
Goggins, R. J., Oconto Falls.
Golden, C. H., Wonewoc.
Golley, F. B., Milwaukee.
Gomber, Jacob, Goodman.
Goodfellow, J. R., Superior.
Gordon, J. B., Shawano.
Gordon, J. S., Milwaukee.
Gorst, Chas., Eagle Rock, Col.
Gosin, D. F., Green Bay.
Gramling, H. J., Milwaukee.
Gramling, J. J., Dousman.
Graner, L. H., Coleman.
Grannis, I. V., Menomonie.
Gratiot, C. C., Shullsburg.
Gratiot, Wm. M., Mineral Point.
Graves, L. S., Wilton.
Gray, A. W., Milwaukee.
Gray, R. H., La Crosse.
Greeley, H. P., Madison.
Green, M. K., Mendota.
Green, W. A., Wausau.
Greenberg, H., Milwaukee.
Greenwood, S. D., Neenah.
Gregory, A. T., Elroy.

*Deceased.

Gregory, D. H., De Pere.
Gregory, Frank, Valders.
Gregory, W. W., Stevens Point.
Grinde, G. A., Cumberland.
Grissom, C. B., La Crosse.
Griswold, C. M., Clintonville.
Griswold, F. C., Mazomanie.
Grob, A. R. P., Milwaukee.
Grosskopf, E. C., Milwaukee.
Grotjan, Wm. F., Milwaukee.
Ground, W. E., Superior.
Grove, W. E., Milwaukee.
Groves, R. J., Lodi.
Gudex, V. A., Eau Claire.
Gunderson, A., La Crosse.
Gunderson, C. A. S., Madison.
Gunther, Emil, Sheboygan.
Gunther, Otto, Sheboygan.
Gunther, T. J., Sheboygan.
Gunther, Wm. H., Sheboygan.
Gutsch, O. J., Sheboygan.
Guttman, Paul, Kellnersville.
Guy, J. E., Milwaukee.
*Gygi, John, Big Falls.

Habhegger, C. J., Watertown.
Hackett, J. H., Milwaukee.
Hadley, D. A., Oconomowoc.
Hageman, F. H., Milwaukee.
Haight, A. L., Crystal Falls, Mich.
Hake, Cecil B., Milwaukee.
*Hall, C. H., Huron, South Dakota.
Hall, M. W., Mondovi.
Hall, S. S., Ripon.
Halsey, R. C., Lake Geneva.
Hambley, T. J., Hurley.
Hamilton, D. B., Dodgeville.
Hammond, F. W., Manitowoc.
Hanko, Mary E., Plain.
Hankwitz, P. G., Milwaukee.
Hanley, W. J., Kenosha.
Hannum, H. H., Bayfield.
Hansen, John, Glenbeulah.
Hansen, R. T., Milwaukee.
Hanson, J. W., Milwaukee.
Hanson, W. C., Racine.
Harbert, Helen, Kenosha.
Hardgrove, J. H., Eden.
Hardy, C. F., Milwaukee.
Hargarten, L. J., Milwaukee.
Harkins, J. P., Forest Junction.
Harlow, G. A., Milwaukee.
Harper, C. A., Madison.
Harris, F. M., Fond du Lac.
Harter, A. F., Marathon.
Harvey, J. R., Footville.
Harvie, W. D., Oshkosh.
*Haskell, M. W., Richland Center.
Hastings, J. F., Kenosha.
Hatch, W. E., Superior.
Haubrick, H. J., Oshkosh.
Hausberry, J. S., Wonewoc.
Hausberry, P. H., Hillsboro.
Haushalter, H. P., Milwaukee.
Hausmann, N. E., Kewaskum.
Haven, W. S., Racine.
Hayes, C. A., Chippewa Falls.
Hayes, D. J., Milwaukee.
Hayes, E. P., Eau Claire.
Hayes, E. S., Eau Claire.
Hayman, C. S., Boscobel.
Hayman, L. H., Pasadena, Cal.
Hayward, J. C., Marshfield.
Hazelton, W. A., Hayward.
Head, L. R., Madison.
Hecker, Wm., Beloit.
Hedges, A. N., Faribault, Minn.
Heeb, H. J., Milwaukee.
Heffron, J. J., Milwaukee.
Hefty, C. A., New Glarus.
Hegner, G. T., Appleton.
Heiden, H., Sheboygan.
Heidner, A. H., West Bend.
Heim, R. R., Minneapolis, Minn.
Helsing, A. F., Menomonie.
Helgeson, E. J., Evansville.
Helland, J. W., Spring Grove, Minn.
Helm, Arthur C., Beloit.
Helm, Ernest C., Beloit.
Helm, Harold M., Beloit.
Helz, J. W., Fond du Lac.
Henderson, M. L., Milwaukee.
Hendrickson, H., Green Bay.
Henika, G. W., Madison.
Henney, C. W., Portage.
Hennig, E. L., Beloit.
Heraty, J. A., Milwaukee.
Heraty, J. F., Bloomington.
Herner, W. L., Milwaukee.
Herrick, E. L., Kenosha.

Herron, A. L., Milwaukee.
Hertzman, C. O., Ashland.
Hervey, J. A., Milwaukee.
Hess, C. F., Madison.
Hess, J. W., Adell.
Hicks, L. W., Burlington.
Hidershide, G. N., Arcadia.
Higgins, E. G., Melrose.
Higgins, S. G., Milwaukee.
Hilger, Carl H., Stratford.
Hilger, W. F., Milwaukee.
Hilliard, H. G., Minong.
Hilton, G. F., Sturgeon Bay.
Hinckley, H. G., Merrill.
Hines, L. L., Rockbridge.
Hinrichs, R. G., Ashland.
Hinn, L. P., Fond du Lac.
Hinrichsen, J. A., Larsen.
Hipke, G. A., Milwaukee.
Hipke, Wm., Marshfield.
Hirschbeck, J. G., Forestville.
Hitz, H. B., Milwaukee.
Hodges, F. L., Monroe.
Hodgson, A. J., Waukesha.
Hoermann, R. B., Milwaukee.
Hoffman, E. E., Sharon.
Hoffman, G. H., Milwaukee.
Hoffman, J. G., Hartford.
Hoffman, Leo, Campbellsport.
Hoffman, P. A., Campbellsport.
Hoffmier, L. A., Superior.
Hogan, J. H., Racine.
Hogan, J. M., Oshkosh.
Hogue, G. I., Milwaukee.
Holbrook, A. T., Milwaukee.
Hollenbeck, N. W., Milwaukee.
Holliday, Marion E., Oshkosh.
Holm, J. H., Kenosha.
Holmes, B. H., Racine.
Holtz, H. M., Beaver Dam.
Holz, A. P., Seymour.
Hopkins, Minnie, Oconto.
Hopkinson, D., Milwaukee.
Horsewell, U. M., Wausaukee.
Hosmer, M. S., Ashland.
Houck, Mary P., La Crosse.
Hougen, Ed., Grand Rapids.
Hough, A. G., Madison.
Hovde, A. G., Superior.
Howell, E. C., Fennimore.
Howison, N. L., Menomonie.
Hoyer, A. A., Randolph.
Hoyer, G. C., Milwaukee.
Hoyt, G. E., Menomonee Falls.
Hubenthal, J. C., Belmont.
Huennekens, Jos. H., Milwaukee.
Huff, F. C., Sturgeon Bay.
Hughes, C. W., Winneconne.
Hughes, J. R., Dodgeville.
Hugo, D. G., Oshkosh.
Hull, E. S., Milton Jct.
Hunt, E. M., Weyauwega.
Hunt, F. O., Fall River.
Hunt, Ida M., Weyauwega.
Hurd, H. H., Chippewa Falls.
Hurth, O. J., Cedarburg.

Ingersoll, R. S., Madison.
Irvine, W., Manawa.
Irwin, G. H., Lodi.
Irwin, H. J., Baraboo.
Ishmael, O. E., Mt. Horeb.
Ison, G. W., Crandon.
Iverson, M., Stoughton.
Ivy, R. H., Milwaukee.

Jackey, F. D., Thorp.
Jackson, Edw., Milwaukee.
Jackson, F. A., Eldorado.
Jackson, J. A., Mosinee.
Jackson, J. A., Jr., Madison.
Jackson, J. A., Sr., Madison.
Jackson, R. H., Madison.
Jacobs, E. C., Durand.
Jacobs, S. A., Milwaukee.
James, A. W., Muscoda.
Jamieson, Geo., Lone Rock.
Jamieson, R. D., La Crosse.
Jardine, E. W., Alma.
Jefferson, H. A., Clintonville.
Jegi, H. A., Galesville.
Jensen, A. B., Menasha.
Jermain, H. F., Milwaukee.
Jermain, L. F., Milwaukee.
Jewell, T. M., Mindoro.
Jobse, P. H., Milwaukee.
Jobse, W. P., Milwaukee.
Johnson, A. T., Sauk City.
Johnson, A. W., Milwaukee.
Johnson, C. F., Seattle, Washington.
Johnson, Fred, Eau Claire.

Johnson, F. G., Iron River.
Johnson, F. P., Ontario.
Johnson, H. B., Tomah.
Johnson, H. C., Bruce.
Johnson, J. C., Ogdensburg.
Johnson, Laura M., Boston, Mass.
Johnston, G. B., Ahbottsford.
Johnston, H. E., Oshkosh.
Johnston, W. M., North Freedom.
Johnston, W. W., Racine.
Jones, A. W., Randolph.
Jones, David T., Wausau.
Jones, E. H., Weyauwega.
Jones, Susan, Racine.
Jorgensen, P. P. M., Kenosha.
Joseph, W. A., Milwaukee.
Judge, T. A., Milwaukee.
Juergens, L. W., Milwaukee.
Junck, J. A., Sheboygan.

Kagy, M. O., Milwaukee.
Kahn, Jos., Milwaukee.
Kalliug, H., Alma Center.
Kappelmann, F. W., Milwaukee.
Karnopp, G. L., Mishicott.
Karsten, A. C., Horicon.
Kastner, A. L., Milwaukee.
Katz, H. M., Cedarburg.
Kaumheimer, G. J., Milwaukee.
Kay, H. M., Madison.
Kaysen, Ralph, Watertown.
Keech, J. S., Racine.
Keenan, Harry, Stoughton.
Keithley, J. A., Palmyra.
Keithley, John W., Beloit.
Keland, G. A., Madison.
Keland, H. B., Racine.
Keller, J. M., St. Louis, Mo.
Kellner, V. V., Maribel.
Kellog, E. W., Milwaukee.
Kelly, C. D., Blair.
Kelly, D. M., Baraboo.
Kelly, F. H., Merrill.
Kelly, John, Cato.
Kelly, W. W., Green Bay.
Kemper, W. G., Manitowoc.
Kenney, G. F., Milwaukee.
Kenney, J. F., Benton.
Kenney, R. L., Milwaukee.
Kermott, E. P., Hudson.
Kersten, A. M., De Pere.
Kersten, N. M., De Pere.
Kettelhut, E. J., Milwaukee.
Ketterer, E. A., Montfort.
Keyes, T. B., Chicago, Ill.
Kiefer, J. G., Milwaukee.
King, C. F., Hudson.
King, G. F., Green Bay.
Kings, J. S., Watertown.
Kinne, Edw., Elkhorn.
Kissinger, C. A., Melrose.
Kissling, A. C., Milwaukee.
Kitzke, F. W., Milwaukee.
Klein, J. T., Milwaukee.
Kleinboehl, J. W., Random Lake.
Kleinhans, F. A., Milwaukee.
Kleinhans, M. A., Milwaukee.
Kleinschmidt, H. W., Oshkosh.
*Klemm, L. F., Milwaukee.
Knapp, E. J., Rice Lake.
Knauf, A. J., Sheboygan.
Knauf, F. P., Kiel.
Knauf, G. E., Sheboygan.
Knauf, N. J., Chilton.
Knowles, W. L. M., Spooner.
Knox, C. S., Superior.
Knox, E. S., Green Bay.
Knutson, Oscar, Osseo.
Koch, H. C., Janesville.
Koch, M. J., Milwaukee.
Koehler, A. G., Oshkosh.
Koehler, J. P., Milwaukee.
Korthals, F. J., Milwaukee.
Kosauke, F. C., Watertown.
Kradwell, W. T., Wauwatosa.
Krahn, A. J., Beaver Dam.
Kratsch, A. W., Milwaukee.
Kraut, Elgie, Lancaster.
Kreitzer, A. J., Sawyer.
Kremers, Alex, Milwaukee.
Kreutzer, A. G., Milwaukee.
Kriz, G. H., Milwaukee.
Krohn, H. C., New Holstein.
Kron, L. O., Menomonie.
Krueger, B., Cudahy.
Krumme, S. A., Fond du Lac.
Krygiar, A. A., Milwaukee.
Kulig, A. H., Independence.

*Deceased.

Kunny, B., Baldwin.
Kyes, S. M., Owen.
Kyllo, J. C., Superior.

LaBreck, F. A., Eau Claire.
Lacey, S. W., Footville.
Ladwig, W. A., Wausau.
Laird, J. J., Black Creek.
Lalor, J. C., Sauk City.
Lambeck, F. J., Milwaukee.
Lang, Jacob, Milwaukee.
Langenfeld, P. F., Theresa.
Langland, P., Milwaukee.
Lansdowne, F. B., Kenosha.
Larseu, G. A., Hayward.
Larsen, L. A., Colfax.
Lasche, P. G., Richland Center.
Latham, C. O., Green Bay.
Lauder, C. E., Viroqua.
Laughlin, D. M., Milwaukee.
Law, W. G., Glidden.
Lawhorn, C. C., Milwaukee.
Lawler, C. F., Hilbert.
Lawler, G. W., Sussex.
Lawler, T. S., Lyndon Station.
Lawrence, G. H., Fond du Lac.
Layton, O. M., Fond du Lac.
Leaper, W. E., Greeu Bay.
LeCron, W. L., Milwaukee.
Lee, J. H., Madison.
Lee, M. A., Superior.
Leeson, F. W., Beloit.
Legnard, J. B., Houston, Texas.
Lehnkering, C. F., Darlington.
Leicht, Philip, Lake Mills.
Leitch, G. W., Milwaukee.
Leitzell, P. W., Benton.
Leland, A. M., Whitewater.
Lemmel, J. T., Albany.
Lemmer, G. M., Spooner.
Lemon, C. H., Milwaukee.
Lenfesty, J. P., De Pere.
Leonnard, C. W., Fond du Lac.
Lester, W. A., Onalaska.
Lettenberger, Jos., Milwaukee.
Levitas, I. E., Green Bay.
Lewis, C. H., Milwaukee.
Lewis, J. M., Bloomington.
Lewis, Louis, Milwaukee.
Lid, T. A., Marinette.
Lillie, O. R., Milwaukee.
Lindores, J. D., Stevens Point.
Lindow, G. E., Watertown.
Lindsay, W. T., South Madison.
Linkman, E. J., Milwaukee.
Linn, W. N., Oshkosh.
Lintleman, F. R., Janesville.
Lippitt, S. H., Milwaukee.
Little, W. D., Maiden Rock.
Lohedan, E. T., Milwaukee.
Lochemes, W. T., Milwaukee.
Lockhart, C. W., Mellen.
Lockhart, J. W., Oshkosh.
Loevenhart, A. S., Madison.
Loge, E. S., Milwaukee.
Lohmiller, R. K., Superior.
Longley, J. R., Fond du Lac.
Loomis, E. E., Janesville.
Loope, T. E., Iola.
Looze, J. J., Grand Rapids.
Lorenz, W. F., Mendota.
Lothrop, C. A., Oshkosh.
Lotz, Oscar, Milwaukee.
Loughlin, T. J., Milwaukee.
Loughnan, A. J., Oconomowoc.
Love, G. E., Waukesha.
Ludden, H. D., Mineral Point.
Ludwig, O. P., La Crosse.
Lueck, G. W., La Crosse.
Luhman, F. S., Manitowoc.
Lumley, W. A., Ellsworth.
Lumsden, Wm., Menomonie.
Lundmark, L. M., Ladysmith.
Lyman, J. V. R., Eau Claire.
Lyman, Timothy, Eau Claire.
Lynch, D. W., West Bend.

McBeath, N. E., Livingston.
McCabe, H., Milwaukee.
McCabe, P. G., Fond du Lac.
McCallin, A. E., Waupaca.
McCallister, G. H., Avoca.
McCann, Edith, Milwaukee.
McCarey, A. J., Green Bay.
McCarthy, H. C., Richland Center.
McCarty, E. O., Knapp.
McChesney, W. M., Edgerton.
McClure, G. H., Westboro.
McComb, I. N., Brillion.
McCorkle, S. C., Milwaukee.
McCormick, H., New Auburn.

McCormick, W. C., Tomahawk.
McCracken, J. O., Kenosha.
McCracken, R. W., Union Grove.
McCrory, J. T., Racine.
McCutcheon, W. R., Thorp.
McDermott, L. C., Gratiot.
McDill, J. R., Milwaukee.
McDonald, H. F., Hollendale.
McDougall, G. T., Fond du Lac.
McDowell, A. J., Soldiers Grove.
McEachern, W. A., Superior.
McGarty, M. A., La Crosse.
McGauley, F. M., Fond du Lac.
McGill, P. J., Superior.
McGovern, J. J., Milwaukee.
McGovern, P. H., Milwaukee.
McGrath, Earle F., Appleton.
McGrath, Edw., Baraboo.
McGuire, W. H., Janesville.
McHugh, F. T., Chippewa Falls.
McIndoe, T. B., Rhinelander.
McKee, F. W., Richland Center.
McKellar, A., Blanchardville.
McKeon, P., New Richmond.
McKivett, W., Milwaukee.
McKnight, G. B., Fond du Lac.
McLaughlin, H. J., Bloomington.
McMahon, F. B., Milwaukee.
McMahon, J. P., Milwaukee.
McNary, John, Milwaukee.
McNaughton, W. T., Milwaukee.
McNevins, E. S., Green Bay.
McRae, J. D., Chippewa Falls.
McRae, M. F., Milwaukee.
Maas, W. C., Rio.
MacArthur, D. S., La Crosse.
MacCollum, C. L. R., Manitowoc.
MacCormack, E. A., Whitehall.
MacCormack, R. L., Blair.
MacDonald, Edw., Cuba City.
MacDonald, W. H., Lake Geneva.
Mack, J. A., Madison.
MacKechnie, R. S., Hillsboro.
MacKinnon, G. E., Prentice.
MacLachlan, W. G., McFarland.
MacLaren, J. B., Appleton.
MacMillan, A. E., Stevens Point.
Madison, J. D., Milwaukee.
Maechtle, E. W., West Allis.
Maes, C. G., Kimberly.
Majerus, P. J., Sullivan.
Malkin, G. M., Milwaukee.
Malloy, F. E., Random Lake.
Malone, F. A., Waterford.
Malone, T. C., Milwaukee.
Malone, W. F., Milwaukee.
Marek, F. B., Racine.
Markson, S. M., Milwaukee.
Marquis, A. J., Wausaukee.
Marrs, F. A., Stevens Point.
Marsden, T. H., Fennimore.
Marsh, J. M., Elkhorn.
Marshall, F. P., North Fond du Lac.
Marshall, V. F., Appleton.
Martens, W. A., Milwaukee.
Mason, C. H., Superior.
Mason, E. L., Eau Claire.
Mason, G. F., Milwaukee.
Mason, V. A., Marshfield.
Mast, B. W., La Crosse.
Mathiesen, J., Eau Claire.
Matheson, A., Neillsville.
Matthews, J. B., Milwaukee.
Mauermann, J. F., Monroe.
Maurer, A. A., La Crosse.
Maxson, F. S., Milwaukee.
May, J. V., Marinette.
Meachem, J. G., Jr., Racine.
Meachem, J. G., Sr., Racine.
Meacher, B. C., Portage.
Meade, F. S., Madison.
Meany, J. E., Manitowoc.
Mears, G. V., Fond du Lac.
Mehigan, D. D., Milwaukee.
Meiklejohn, D. V., Fond du Lac.
Melaas, W. G., Beloit.
Melster, W. H., Milwaukee.
Mensing, E., Milwaukee.
Merrill, W. G., Grand Rapids.
Merten, A. N. E., Milwaukee.
Merten, P. J., Milwaukee.
Mertens, H. G., Bayfield.
Mesch, A. A., Saukville.
Messmer, Clemens, Milwaukee.
Meusel, Harry, Oshkosh.
Meyer, E. E., Brillion.
Meyer, H. C., Neeedah.
Meyer, R. C., New Holstein.
Meyers, J. M., Superior.

Meyst, C. H., Burlington.
Middleton, W. S., Madison.
Midelfart, H. C., Eau Claire.
Midgley, A. E., Whitewater.
Mieding, A. E., Milwaukee.
Milhee, H. H., Marshfield.
Millard, F. D., Milwaukee.
Miller, E. A., Clintonville.
Miller, E. W., Milwaukee.
Miller, H. C., Whitewater.
Miller, Thos., Oconomowoc.
Miller, W. J., La Valle.
Miller, W. S., Madison.
Mills, N. P., Appleton.
Minahan, J. J., St. Nazianz.
Minahan, J. R., Green Bay.
Minahan, R. E., Green Bay.
Minahan, P. R., Fond du Lac.
Mishoff, I. D., Milwaukee.
Mitchell, E. J., Brodhead.
Mitchell, F. W., Ogema.
Mitchell, R. E., Eau Claire.
Mitchell, S. R., Milwaukee.
Mock, F. C., Milwaukee.
Moe, H. B., Blanchardville.
Moeller, J., Milwaukee.
Moeller, M. W., Milwaukee.
Moffat, H. L., Arpin.
Mollinger, S. M., Milwaukee.
Monroe, W. B., Monroe.
Monstad, J. W., New London.
Montgomery, A., Milwaukee.
Montgomery, R. C., Madison.
Montgomery, Wm., Minneapolis, Minn.
Moore, E. E., Merrillan.
Moore, G. E., Antigo.
Moore, G. W., Antigo.
Moore, L. A., Monroe.
Moore, W. N., Appleton.
Moraux, Felix, Luxemburg.
Morgan, J. J., Durand.
Morgan, Mary E., Superior.
Morgenroth, H. W., Oshkosh.
Mork, Ole, Blair.
Morley, F. E., Viroqua.
Morris, E. K., Merrill.
Morris, R. C., Ft. Atkinson.
Morris, S. J., Madison.
Morrison, M., Cashton.
Morrison, W. W., Edgerton.
Morse, E. A., Appleton.
Mortenson, O. N., Grand Rapids.
Morter, C. W., Milwaukee.
Morter, R. E., Milwaukee.
Morton, H. H., Cobb.
Moyer, S. R., Monroe.
Muckerheide, A. J., Milwaukee.
Mudroch, J. A., Columbus.
Mueller, Shawano.
Muenzner, R. J., Milwaukee.
Mulvaney, F. M., Marion.
Munger, D. C., Ellsworth.
Munkwitz, F. H., Milwaukee.
Munn, W. A., Janesville.
Murphy, E. C., Wilmot.
Murphy, E. R. F., Antigo.
Murphy, G. F., Stratford.
Murphy, S. W., Kenosha.
Murphy, W. J., Milwaukee.
Muth, Carl, Sheboygan.
Myers, C. E., Milladore.
Myers, I. A., Cottage Grove.
Nadeau, A. T., Marinette.
Nadeau, E. G., Green Bay.
Nainka, A., Boaz.
Nair, Belle P., Winnebago.
Myrick, A. L., DeSota.

Nauth, D. F., Kiel.
Nedry, G. C. Medford.
Nedry, H. M., Medford.
Nelson, A. L., Racine.
Nelson, A. N., Clear Lake.
Nelson, N. O., Madison.
Nelson, O. A., Seattle, Wash.
Nelson, O. O., Arcadia.
Nelson, W. V., Milwaukee.
Netvig, G. A., Prairie Farm.
Newell, Frank, Burlington.
Newman, E. C., Berlin.
Newman, Robt., Chicago.
Newton, J. E., Hudson.
Nieely, W. E., Waukesha.
Nichols, F. C., Wausau.
Nichols, R. M., Sheboygan Falls.
Nichols, W. T., Milwaukee.
Nicholson, J. D., Milltown.
Nielson, G. W., Milwaukee.
Nielson, W. H., Milwaukee.

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Nimocks, Sara, La Crosse.
Nims, C. A., Oshkosh.
Nixon, H. G. B., Hartland.
Nixon, R. T. A., Brookfield.
Noble, J. B., Waukesha.
Nobles, B. O., Milwaukee.
Noer, Julius, Riverside, Cal.
Noer, P. J., Waheno.
Nolan, W. N., Kaukauna.
Nolte, L. G., Milwaukee.
Normandeau, Florence J., Plattsburg, N. Y.
North, C. E., Beaver Dam.
Notbohm, W. R., Dousman.
Nott, G. W., Racine.
Nowack, L. H., Watertown.
Noyes, G. B., Stone Lake.
Nuzum, Frank, Janesville.
Nuzum, T. W., Janesville.
Nuzum, W. F., Baraboo.
Nye, F. T., Beloit.
Nystrum, C. E., Medford.

O'Brien, H. N., Darien.
O'Brien, J. M., Oregon.
O'Brien, T., St. Nazianz.
O'Brien, W. T., Ashland.
O'Connell, D. C., Milwaukee.
O'Connell, J., Watertown.
O'Connell, J. E., Milwaukee.
O'Conner, W. F., Ladysmith.
O'Leary, T. J., East Troy.
O'Leary, T. J., Superior.
Oakland, H. G., Milwaukee.
Oatway, W. H., Waukesha.
Oberembt, B., Milwaukee.
Obertin, C. A., Union Grove.
Oettiker, Jas., Platteville.
Ogden, H. V., Milwaukee.
Oliver, C. H., Boyceville.
Oliver, T. J., Green Bay.
Olmsted, A. O., Green Bay.
Olson, A. K., Ettrick.
Olson, A. L., Stoughton.
Olson, Chresten, Racine.
Olson, E. A., Osseo.
Omsted, N., Stoughton.
Orchard, H. J., Superior.
Orr, E. D., Mt. Hope.
Orton, Susanne, Darlington.
Overbaugh, J. H., Hartland.
Ovitz, E. G., Laona.
Ozanne, I. E., Neenah.
Ozanne, J. T., Oshkosh.

Packard, C. D., Rhinelander.
Pake, S. G., Hayward.
Palm, C. A., Kenosha.
Palmer, C. W., Cassville.
Palmer, J. A., Areadia.
Palmer, W. H., Janesville.
Palt, Jos., Kenosha.
Panettl, P. A., Hustisford.
Parham, G. H., Necedah.
Park, W. H., Glenwood City.
Parke, Geo., Viola.
Parker, A. S., Clinton.
Parker, T. G., Union Grove.
Parmenter, E. L., Liberty, Mo.
Partridge, O. F., Mattoon.
Patek, A. J., Milwaukee.
Payne, A. L., Eau Claire.
Pearce, W. J., Dodgeville.
Pearson, C. M., Ogema.
Pearson, L. M., Tomahawk.
Pease, W. A., Jr., Rio.
Pease, W. A. Sr., Otsego.
Peck, W. W., Darlington.
Peebles, Mary, Shullsburg.
Peehn, F. G., Corliss.
Pegram, J. W., Milwaukee.
Pelton, L. H., Waupaca.
Pember, J. F., Janesville.
Pembleton, W. C., Wittenberg.
Perrin, G. H., Menomonee Falls.
Perrin, H. E., Star Prairie.
Perry, Gentz, Amery.
Peters, H. A., Oconomowoc.
Peterson, C. F., Independence.
Peterson, E. F., Wauwatosa.
Peterson, G. E., Waukesha.
Peterson, R. O., Racine.
Petzke, E. A., Hixton.
Pfeffer, E. N., Milwaukee.
Pfeifer, C. W., Sheboygan Falls.
Pfeifer, F. J., New London.
Pfeifer, H. A., Jackson.
Pfeil, R. C., Milwaukee.
Pfeiler, A. G., Sheboygan Falls.
Pfister, Franz, Milwaukee.
Pfisterer, F. W., Markesan.
Phaneuf, S. J., Somerset.

Phillips, Clara M., Madison.
Philipps, F. L., Chippewa Falls.
Phillips, T. C., Milwaukee.
Pickering, C. R., Muscoda.
Pickett, S. L., Bayfield.
Pierson, P. R., Readstown.
Pinkerton, W. T., Prairie du Chien.
Pitz, M. N., Neenah.
Pleyte, A. A., Delafield.
Pomainville, Frank, Grand Rapids.
Pomainville, Geo., Nekoosa.
Pope, F. J., Racine.
Pope, F. W., Racine.
Poppe, Alfred, Friendship.
Poppe, H. B. B., Wautoma.
Poser, E. M., Columbus.
Post, C. C., Barron.
Potter, J. Y., New London.
Potter, L. A., Superior.
Potter, R. P., Marshfield.
Powell, J. J. Galesville.
Powers, C. D., Kingston.
Powers, H. W., Milwaukee.
Powers, J. W., Milwaukee.
Pratt, Maud, Appleton.
Prees, G. W., Cambria.
Pretts, W. W., Platteville.
Prill, H. F., Augusta.
Pritchard, J. F., Manitowoc.
Proctor, T. C., Sturgeon Bay.
Prouty, W. A., Burlington.
Pugh, G. A., Kenosha.
Pugh, Wm., Kenosha.
Pullen, A. J., No. Fond du Lac.
Puls, A. J., Milwaukee.
Purcell, H. E., Madison.
Purtell, E. J., Milwaukee.
Purtell, J. A., Milwaukee.
*Pynu, R. C., Delavan.

Quam, Jacob, Deerfield.
Quick, E. W., Milwaukee.
Quinn, R. B., Darlington.

Raasock, H., Nelsonville.
Racek, G. J., Princeton.
Radloff, A. C., Plymouth.
Ragan, W. F., Milwaukee.
Ragan, W. J., Shawano.
Randall, A. J., Kenosha.
Randall, M. W., Blue River.
Rasmussen, Hans, Milwaukee.
Rath, R. R., Granton.
Rathert, E. T., Chilton.
Ravn, M., Merrill.
Raymond, R. G., Brownsville.
Reo, A. L., Chippewa Falls.
Read, Flora, Fond du Lac.
Reagles, Robt., Arlington.
Reay, G. R., La Crosse.
Reetor, A. E., Appleton.
Reddick, G. H., Wabeno.
Redelings, L. H., Marinette.
Redelings, T. J., Marinette.
Reeve, J. S., Appleton.
Reeves, S. T., Albany.
Regan, E. D., Milwaukee.
Rehorst, J. J., Fond du Lac.
Reich, H. C., Sheboygan.
Reich, W. F., Milwaukee.
Reichert, J. E., West Bend.
Reineck, C., Appleton.
Reineking, H., Milwaukee.
Reineking, W. C., Statesan.
Reinert, E. N., Cleveland.
Reinhardt, J. P., Fountain City.
Reinhart, D. B., Merrill.
Reis, G. W., Junction City.
Remer, W. H., Chaseburg.
Reynolds, Bertha, Lone Rock.
Reynolds, J. C., Lake Geneva.
Rheineck, A. F., Milwaukee.
Rhode, H. P., Green Bay.
Ribenack, G. A., Bloomer.
Rice, Gresham.
Rice, C. W., Delavan.
Rice, D. B., Aberdeen, S. Dak.
Rice, D. S., Stevens Point.
Rice, E. M., Milwaukee.
Rice, F. A., Delavan.
Rice, R. H., Milwaukee.
Richards, C. A., Rhinelander.
Rick, J. B., Mishicott.
Ridgman, A. L., Grand Rapids.
Ridgway, E. T., Elkhorn.
Riehl, F. W., Milwaukee.
Riley, E. A., Park Falls.
Riley, P. E., Eau Claire.
Ringo, H. F., Montreal.
Rinker, F. C., Madison.
Riopell, W. G., Thorp.
Riordan, J. F., Berlin.

Ripley, G. H., Kenosha.
Ripley, H. M., Kenosha.
Ritchie, G. A., Appleton.
Robh, J. J., Green Bay.
Robhins, G. H., Madisou.
Roherts, D. W., Milwaukee.
Roberts, J. A., Portage.
Rohinson, H. A., Kenosha.
Roby, H. S., Milwaukee.
Rock, J. N., Milwaukee.
Rodermund, A. M., Athens.
Roethke, R. W., Milwaukee.
Rogers, A. W., Milwaukee.
Rogers, E. H., Stevens Point.
Rogers, F. C., Oconomowoc.
Rogers, P. F., Milwaukee.
Rohr, J. H., North Milwaukee.
Rolfs, T. H., Milwaukee.
Rollefson, C. J., Superior.
Rood, J. F., Darlen.
Rose, Felix, Coleman.
Rose, J. F., Lena.
Rosenherry, A. B., Wausau.
Rosenheimer, M. A., Fox Lake.
Rosholt, J. A., La Crosse.
Ross, G. L., Kenosha.
Ross, H. R. T., Ladysmith.
Ross, J. M., Bloom City.
Ross, P. M., Milwaukee.
Rothman, L., Wittenherg.
Rouse, H. A., Browntown.
Rowles, J. A., La Crosse.
Rowley, A. G., Middleton.
Rowley, C. C., Winnebago.
Ruckle, W. M., Grand Rapids.
Ruethen, K. A., Ridgeland.
Rugh, R. E., Racine.
Ruhland, G. C., Milwaukee.
Rundell, Annie S., Beloit.
Rupp, L. G., Sullivan.
Ruschaupt, L. F., Milwaukee.
Russell, Frank, Weyauwega.
Russell, F. G., Milwaukee.
Russell, H. C., Milwaukee.
Ryan, C. E., Appleton.
Ryan, E., Sheboygan.
Rydell, C. B., Superior.

Salter, H. G., Cascade.
Sandborn, M. J., Appleton.
Sanders, J. B., Beaver Dam.
Sandin, N. V., Amery.
Sarazin, F. C., Superior.
Sargent, H. W., Milwaukee.
Sargent, J. C., Milwaukee.
Sarles, W. T., Sparta.
Sarvela, H. L., Superior.
Sathe, M. R., Rio.
Sattre, O. M., Rice Lake.
Sauerhering, D. L., Wausau.
Saunders, Geo., Superior.
Sauter, S. H., Detroit, Mich.
Sauthoff, Aug., Mendota.
Sauthoff, Mary, Mendota.
Savage, G. F., Pt. Washington.
Savage, G. T., Milwaukee.
Sayle, R. G., Milwaukee.
Sayles, L. W., Barahoo.
Saylor, Herhert, Merrill.
Scantleton, J. M., Sparta.
Schaefer, C. O., Racine.
Schallern, Bruno, Ripon.
Schaper, H., Appleton.
Schee, John, Westhy.
Scheid, M. M., Rosendale.
Schein, J. E., Oshkosh.
Schell, Ida L., Milwaukee.
Scheurich, L. G., Tomah.
Schiller, L., Milwaukee.
Schiegel, H. T., Wausau.
Schienker, G. H., Elk Mound.
Schiesselman, G. H., Fond du Lac.
Schlueter, U. A., Milwaukee.
Schmeling, A. F., Columhus.
Schmidt, E. S., Green Bay.
Schmidt, F. M., Eagle.
Schmidt, H. E., Milwaukee.
Schmidt, J. A., Brillion.
Schmit, A. I., Beloit.
Schmitt, F., Milwaukee.
Schmitt, G., Milwaukee.
Schmitt, Louis, Milwaukee.
Schmitt, Phil., Milwaukee.
Schmitz, W. C., Manitowoc.
Schneider, F., New London.
Schneider, J. F., Oshkosh.
Schnelder, Jos., Milwaukee.
Schnell, W. H., Superior.
Schnug, Max, Durand.

*Deceased.

Schoen, C., Milwaukee.
Schoen, R. E., Beaver Dam.
Scholz, G. M., Milwaukee.
Schoofs, J. J., Malone.
Schoofs, O. P., Malone.
Schram, C. F. N., Beloit.
Schreiner, J. K., Westby.
Schriher, E. L., Frauksville.
Schroeckenstein, R. S., Marion.
Schroeder, E. L., Shawano.
Schroeder, H. F., Marinette.
Schroeder, J. C., Milwaukee.
Schuldt, C. M., Platteville.
Schulz, F. M., Wauwatosa.
Schwalbach, C. G., Juneau.
Schwartz, A. B., Milwaukee.
Schwartz, D. R., Chetek.
Schweitzer, G. J., St. Cloud.
Scollard, J. T., Milwaukee.
Scott, B. E., Berlin.
Scott, H. E., Argyle.
Scott, J. R., Appleton.
Seaman, G. E., Milwaukee.
Searle, D. R., Superior.
Sears, H. B., Beaver Dam.
Seeger, S. J., Milwaukee.
Seelman, J. J., Milwaukee.
Seemann, W. O., Eau Claire.
Seiberth, J., Lugerville.
Seidel, J. G., Warrens.
Seiler, G. A., Monroe.
Senn, C. U., Ripon.
Senn, F. C., Oshkosh.
Senn, Geo., De Pere.
Senn, U., Milwaukee.
Sexton, W. G., Marshfield.
Shafferzick, Chas., Denver, Col.
Sharpe, H. A., Verona.
Shaw, A. O., Ashland.
Shaw, B. W., Waunakee.
Shaw, J. L., Manitowoc.
Shaykett, F. E., Brandon.
Shearer, A. T., Edgerton.
Shearer, F. E., Edgerton.
Shearer, R. D., Milwaukee.
Sheehy, T. J., Tomah.
Sheldon, C. S., Madison.
Sheldon, W. H., Madison.
Shepherd, W. A., Seymour.
Sherman, Adin, Winnebago.
Sherwood, M. W., Milwaukee.
Shimek, A. J., Manitowoc.
Shinnick, T. F., Beloit.
Shockley, H. O., Darlington.
Sibree, H. C., Sturgeon Bay.
Sickles, W. A., Milwaukee.
Sieker, A. W., Franklin.
Siekert, H. P., Milwaukee.
Sifton, H. A., Milwaukee.
Silverthorn, F. R., Berlin.
Simon, L. J., Horicon.
Simones, V. L., La Crosse.
Simons, N. S., Taylor.
Simpson, J. E., Endeavor.
Sincock, H. A., Odanah.
Sizer, E. M. A., Eau Claire.
Skemp, A., La Crosse.
Skwor, C. J., Neosho.
Sleyster, Rock, Wauwatosa.
*Smedal, G., La Crosse.
Smedal, E., La Crosse.
Smiles, C. J., Ashland.
Smith, A. D., Gilmanton.
Smith, C. E., Beloit.
Smith, D. S., La Crosse.
Smith, E. A., Milwaukee.
Smith, F. V., Fond du Lac.
Smith, G. L., Jefferson.
Smith, G. M., Chippewa Falls.
Smith, J. C., Beloit.
Smith, Jos. F., Wausau.
Smith, J. W., Milwaukee.
Smith, K. W., Madison.
Smith, O. E., Mukwonago.
Smith, R. C., Superior.
Smith, S. M., Milwaukee.
Smith, S. M. B., Wausau.
Smith, T. D., Neenah.
Smith, W. P., Waupun.
Snodgrass, T. J., Janesville.
Solberg, A. A., Coon Valley.
Soles, F. A., Spencer.
Sommers, J. C., Madison.
Sonnenburg, C. N., Sheboygan.
Sorenson, S., Racine.
Southwick, F. A., Stevens Point.
Spawn, M. G., Beloit.
Speck, J. T., Park Falls.
Spencer, G. F., Evansville.
Spencer, L. E., Wausau.

Sperry, S. B., Delafield.
Sperry, W. P., Phillips.
Spiegelberg, E. H., Boscobel.
Spitz, M. M., Milwaukee.
Squire, C. A., Sheboygan.
Stack, G. F., Independence.
Stack, S. S., Milwaukee.
Staehle, Max, Manitowoc.
Stalker, H. J., Kenosha.
Stanley, W. S., Milwaukee.
Stannard, G. H., Sheboygan.
Starnes, Brand, Mauston.
Starr, F. W., Stanley.
Stebbins, W. W., Madison.
Steele, G. A., Oshkosh.
Steele, G. M., Oshkosh.
Steffen, I. D., Antigo.
Steffen, L. A., Antigo.
Stemper, Irene G., Milwaukee.
Stephenson, W. L., Ladysmith.
Steuck, A. F., Francis Creek.
Stevens, F. E., Bristol.
Steves, B. J., Menomonie.
Stewart, F. W., Wheeler.
Stewart, W. C., Kenosha.
Stiles, V. W., Sparta.
Stirn, F. J., Iron Ridge.
Stockman, B. G., Woodville.
Stoddard, C. H., Milwaukee.
Stoelting, C. W., Oconto.
Stoland, I., Eau Claire.
Stoltz, C. E., Milwaukee.
Stovall, W. D., Madison.
Stoye, J. P., Theresa.
Stratton, F. A., Milwaukee.
Strauss, F., Milwaukee.
Strong, R. G., Beloit.
Stubenvoll, C. E., Shawano.
Studley, F. C., Milwaukee.
Stuesser, C. N., Oconomowoc.
Suiter, F. C., La Crosse.
Sullivan, A. G., Madison.
Sullivan, J. D. Kenosha.
Sullivan, J. T., Milwaukee.
Sullivan, W. J., Superior.
Sure, J. H., Milwaukee.
Surenson, M., Viroqua.
Sutherland, C. H., Janesville.
Sutherland, F. E., Janesville.
Sutter, E. H., Milwaukee.
Suttle, H. J., Viroqua.
Swarthout, E. C., La Crosse.
Sweemer, Wm., Milwaukee.
Sykes, H. D., Milwaukee.
Sykes, L. G., Milwaukee.
Sylvester, H., Livingston.

Tanner, E. E., Milwaukee.
Tanner, G. F., Turtle Lake.
Tanner, H. B., Eastland, Texas.
Tarnutzer, B. C., Beaver Dam.
Tarter, J. W., Iron River.
Tasche, C. T., Sheboygan.
Tasche, J. T., Sheboygan.
Taugher, A. J., Milwaukee.
Taugher, J. P., Milwaukee.
Taylor, A. R., Brodhead.
Taylor, E. A., Racine.
Taylor, F. B., Madison.
Taylor, J. G., Milwaukee.
Taylor, L. L., Waupun.
Taylor, W. A., Portage.
Teitgen, A., Manitowoc.
Tennies, Helen B., Antigo.
Tenny, J. S., Alma.
Terlinden, J. H., Bonduel.
Teschan, R. C., Milwaukee.
Teschan, R. F., Milwaukee.
Thackery, R. C., Racine.
Thalhimer, Wm., Milwaukee.
Tharinger, E. L., Milwaukee.
Thayer, F. A., Beloit.
Thielke, G. A., Wausau.
Thienhaus, C. O., Milwaukee.
Thill, D. P., Milwaukee.
Thomas, J. S., Milwaukee.
Thomas, W. O., Clinton.
Thompson, A. S., Mt. Horeb.
Thompson, B. V., Oshkosh.
Thompson, F. A., Milwaukee.
Thompson, G. E., Kenosha.
Thompson, I. F., Madison.
Thompson, J. B., Wittenberg.
Thompson, W. L., Sheboygan.
Thomson, W. J., Portage.
Thorndike, Wm., Milwaukee.
Thorne, J. P., Janesville.
Thrane, A. D. H., Eau Claire.
Tibbits, U. J., Waukesha.
Tillson, E. M., Milwaukee.
Timm, E. W., Milwaukee.

Tisdale, L. C., Milwaukee.
Titel, E. A., Greenleaf.
Tkadlec, Jos., Cazenovia.
Tompach, Emil, Racine.
Tormey, T. W., Madison.
Torpy, T. G., Minoqua.
Towne, W. H., Shiocton.
Townsend, E. H., Jr., New Lisbon.
Townsend, E. H., Sr., New Lisbon.
Townsend, Elma J., Madison.
Tranckle, H. M., Bloomer.
Treadwell, C. L., Faith, So. Dak.
Treat, C. R., Sharon.
Treglown, L. H., Livingston.
Trevitt, Margaret, Wausau.
Trowbridge, C. H., Viroqua.
Trowbridge, Wm., Viroqua.
Tryon, F. E., Merrimac.
Tupper, E. E., Eau Claire.
Twohig, D. J., Fond du Lac.
Twohig, H. E., Fond du Lac.
Twohig, J. Elmer, Fond du Lac.
Tyvand, J. C., Whitehall.
Urheim, O. J., Park Falls.
Valentine, L. P., Racine.
Van Altena, Jr., L. A., Cedar Grove.
Van der Lind, L. A., Muskegon, Mich.
Van Hengel, G. L., Waupun.
Van Kirk, F. W., Janesville.
Van Schaick, R. E., Caroline.
Van Valzah, Robt., Madison.
Van Zanten, Wm., Sheboygan.
Vedder, H. A., Marshfield.
Vedder, J. B., Marshfield.
Verbeck, S. F., Lodi.
Ver Meulen, J. R., Waupun.
Vernon, S. G., Madison.
Vogel, C. A., Elroy.
Vogel, C. C., Elroy.
Voight, A. H., Oostburg.
Voje, J. H., Oconomowoc.
Von Beust, M., Milwaukee.
Von Buddenbrock, E., Racine.
Von Neupert, Carl, Jr., Stevens Point.
Von Neupert, Carl, Sr., Stevens Point.
Vosburg, W. H., Cooperstown.
Voskuil, Anthony, Cedar Grove.

Wade, F. S., New Richmond.
Wadey, B. J., Belleville.
Wagner, N. B., Racine.
Wahl, C. M., Spring Green.
Wahl, H. S., Wausau.
Wahle, Geo. H., Marshfield.
Waite, W. S., Kendalls.
Wakefield, G. F., West Salem.
Wakefield, S. R., West Salem.
Walbridge, F. E., Stevens Point.
Walbridge, J. S., Berlin.
Walch, F. C., Black Creek.
Waldschmidt, J. W., Fond du Lac.
Waldschmidt, W. J., Fond du Lac.
Walker, F. W., St. Croix Falls.
Walker, L. G., Pound.
Wallis, J. H., Barron.
Walsh, C. C., Merrill.
Walters, D. N., Fond du Lac.
Warfield, L. M., Milwaukee.
Was, Edward, Oostburg.
Washburn, R. G., Milwaukee.
Washburn, W. H., Milwaukee.
Waters, Don, Grand Rapids.
Waters, Hugh, Nekoosa.
Watson, F. V., Antigo.
Waufle, G. C., Janesville.
Weaver, L. A., Iron Belt.
Webb, E. P., Beaver Dam.
Webb, W. B., Beaver Dam.
Weber, A. J., Milwaukee.
Weber, H. F., Newburg.
Webster, B. N., Rice Lake.
Webster, F. E., Amherst.
Wegge, W. F., Milwaukee.
Wehle, W. J., West Bend.
Weideman, W. G., Milwaukee.
Weidner, M. C., Milwaukee.
Weingart, W. F., Milwaukee.
Welch, F. B., Janesville.
Weld, H. J., Campbellsport.
Wenn, J. F., Milwaukee.
Wentzell, W. L., Beaver Dam.
Wenstrand, D. E., Milwaukee.
Wenker, R. J., Milwaukee.
Wenzel, J. V., Ashland.
Werner, C. F., St. Cloud.
Werner, H. C., Union Grove.
Werner, Nels, Barron.
Werner, R. F., Eau Claire.
Westgate, H. J., Rhinelander.
Westhofen, R. C., Milwaukee.
Wetzler, S. H., Milwaukee.
Wheeler, W. P., Oshkosh.
White, A. G., Milwaukee.
White, A. S., Rice Lake.
White, R. M., Prairie du Chien.
White, W. E., Burlington.
Whitehorn, E. E., Vesper.
Whitney, D. C., Rice Lake.
Whyte, W. F., Madison.
Wichman, G. C., Rib Lake.
Wiesender, A. J., Berlin.
Wiger, H. C., Dallas.
Wilcox, A. G., Solon Springs.
Wiley, F. S., Fond du Lac.
Wilkinson, J. A., Hales Corners.
Wilkinson, M. R., Oconomowoc.
Wilkowski, C. W., Chippewa Falls.
Willard, L. M., Wausau.
Williams, A. J., Waukesha.
Williams, H. H., Sparta.
Williams, Maude R., Milwaukee.
Williams, R. L., Statesan.
Williams, S. E., Chippewa Falls.
Williams, W. B., Argyle.
Williams, W. E., Cambria.
Willlamson, G. H., Neenah.
Wilmarth, A. W., Chippewa Falls.
Wilson, C. J., Winchester.
Windesheim, G., Kenosha.
Wing, W. S., Oconomowoc.
Winneman, F. A., Merrill.
Winslow, F. R., Baraboo.
Winter, A. E., Tomah.
Witepalek, W. W., Algoma.
Witte, W. C. F., Milwaukee.
Wochos, F. J., Green Bay.
Wochos, W. M., Kewaunee.
Wolf, H. E., La Crosse.
Wolff, J., Milwaukee.
Wolfgram, O. J., Lyons.
Wolter, H. A., Green Bay.
Wolters, H. F., Milwaukee.
Wood, F. C., Waupaca.
Woodhead, F. J., Waukesha.
Wright, A. E., New Richmond.
Wright, C. A., Delavan.
Wright, F. R., West Allis.
Wright, J. C., Antigo.

Yaffe, Aaron, Milwaukee.
Yanke, A. E., Milwaukee.
Yates, J. L., Milwaukee.
Youmans, L. E., Mukwonago.
Young, A. F., Wauwatosa.
Young, G. H., Elkhorn.
Young, J. H., Elkhorn.
Young, M. L., Ashland.
Young, Will, Ft. Atkinson.

Ziegler, E. J., Oxford.
Ziegler, J. E. B., Eau Claire.
Zierath, W. F., Sheboygan.
Zilisch, W. E., Wausau.
Zimmerman, Amelia, La Porte, Ind.
Zimmermann, C., Milwaukee.
Zinns, A. J., Milwaukee.
Zivnuska, J. F., Milwaukee.
Zohlen, J. P., Sheboygan.
Zuercher, J. C., La Crosse.
Zwickey, W. H., Superior.

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*Deceased.

CONSTITUTION AND BY-LAWS, STATE MEDICAL SOCIETY OF WISCONSIN

Article I.—Name of the Association.

The name and title of this organization shall be the State Medical Society of Wisconsin.

Article II.—Purposes of the Society.

The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the state of Wisconsin, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

Article III.—Component Societies.

Component societies shall consist of those county medical societies which hold charters from this Society.

Article IV.—Composition of the Association.

Section 1. This Society shall consist of Members, Honorary Members, Associate Members, Delegates and Guests.

Sec. 2. *Members.* The Members of this Society shall be the members of the component county medical societies.

Sec. 3. *Honorary Members.* Those members who have been elected to honorary membership by the various component county societies, may be enrolled as honorary members of this Society upon approval of the Council. These honorary members shall enjoy all the rights of membership, and their dues to the State Society shall be remitted. Distinguished physicians of other states who have rendered valuable service to this Society may be elected to honorary membership by the House of Delegates. These distinguished physicians shall enjoy the rights of guests at succeeding meetings of this Society.

Sec. 4. *Associate Members.* Associate members of this Society shall be selected by the Council from among such

persons, prominent in the sciences allied to Medicine, whose names have been presented for consideration for such membership by three members of the Society. Such associate members shall have the right to participate in the scientific work of the Society, and their dues shall be remitted.

Sec. 5. *Delegates.* Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Society, together with the Ex-Presidents of the Society.

Sec. 6. *Guests.* Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the officers of this Society, and shall be accorded the privilege of participating in all of the scientific work of that Session.

Article V.—House of Delegates.

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) Delegates elected by the component county societies, (2) *ex officio*, the officers of the Society as defined in this Constitution, and (3) the Ex-Presidents of this Society.

Article VI.—Council.

Section 1. The Board of Trustees, or, as in this Constitution and By-Laws, designated the Council, shall consist of twelve Councilors elected by the House of Delegates, and the President and Secretary, *ex officio*. Besides its duties mentioned in the By-Laws, it shall have charge of and control all the property of this Society of whatsoever nature and of all funds from whatsoever source.

Sec. 2. No person shall expend, or use for any purpose, money belonging to the Society without the approval of the Council.

Sec. 3. All acts of the House of Delegates involving the expenditure, appropriation or use in any manner, of money, or the acquisition or disposal in any manner of property of any kind belonging to the Society, must be approved by the Council.

Sec. 4. The Council shall formulate rules governing the expenditure of money to meet the necessary running expenses and fixed charges of the Society, as well as such other rules governing its actions as it may deem necessary or desirable. Six members of the Council shall constitute a quorum for the transaction of business.

Article VII.—Sections and District Societies.

The House of Delegates may provide for a division of the scientific work of the Society into appropriate Sections, and for the organization of such District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

Article VIII.—Sessions and Meetings.

Section 1. The Society shall hold an Annual Session, during which there shall be held daily General Meetings, which shall be open to all registered members and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

Article IX.—Officers.

Section 1. The officers of this Society shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and twelve Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary and the Treasurer shall be elected by the Council at its Annual Meeting in January, and each shall hold his office for one year. The Councilors shall be elected for terms of six years each, being so divided that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of this Society shall be elected by the House of Delegates on the morning of the second day of the Annual Session, and no person shall be elected to any office who is not in attendance upon that Annual Session and who has not been a member of the Society for the past two years.

Sec. 4. Terms of office for officers of this Society shall, unless otherwise specified, begin with the fiscal year following their election.

Article X.—Funds and Expenses.

Funds shall be raised by an equal per capita annual assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, by a four-fifths vote of the Delegates present.

Funds may also be raised by voluntary contributions, from the Society's publications, and in any other manner approved by the House of Delegates.

All appropriations for expenditures of money or property other than that required to meet the necessary running expenses and fixed charges of the Society, shall originate in the House of Delegates.

Article XI.—Referendum.

Section 1. A General Meeting of the Society may, by a two-thirds vote of the members present, order a general referendum on any question pending before the House of Delegates, and when so ordered the House of Delegates shall submit such question to the members of the Society, who may vote by mail or in person, and, if the members voting shall comprise a majority of all the members of the Society, a majority of such vote shall determine the question and be binding on the House of Delegates.

Sec. 2. The House of Delegates may, by a two-thirds vote of its own members, submit any question before it to a general referendum, as provided in the preceding section, and the result shall be binding on the House of Delegates.

Article XII.—The Seal.

The Society shall have a common Seal, with power to break, change or renew the same at pleasure.

Article XIII.—Amendments.

The House of Delegates may amend any Article of this Constitution by a two-thirds vote of the Delegates present at any Annual Session, provided that such

amendment shall not be acted on until the day following that on which it was introduced.

BY-LAWS.

Chapter I.—Membership.

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be prima facie evidence of membership in this Society and all the rights and privileges pertaining thereto.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified, by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that Session. No member shall take part in any of the proceedings of an Annual Session until he has complied with the provisions of this section.

Chapter II.—Annual and Special Sessions of the Society.

Section 1. The Society shall hold an Annual Session at such time and place as has been fixed at the preceding Annual Session.

Sec. 2. Special meetings of either the Society or of the House of Delegates shall be called by the President on petition of twenty delegates or fifty members.

Sec. 3. The fiscal year of this Society shall be the Calendar year.

Chapter III.—General Meetings.

Section 1. All registered members may attend and participate in the proceedings and discussions of the General Meetings and of the Sections. The General Meetings shall be presided over by the President or by one of the Vice-Presidents, and before them shall be delivered the address of the President and the orations.

Sec. 2. The General Meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigation of special interest and importance to the profession and public.

Chapter IV.—House of Delegates.

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Society, and shall fix its hours of meeting so that they shall not conflict with the General Meetings of the Society. But if the interests of the Society and profession require, the House of Delegates may meet in advance, or remain in session after the adjournment of the general Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each major fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

Sec. 3. A majority of the delegates registered shall constitute a quorum.

Sec. 4. The House of Delegates shall, through its officers, Council and otherwise, give diligent attention to and foster the scientific work and spirit of the Society, and shall constantly study and strive to make each Annual Session a stepping stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

Sec. 8. It shall, upon application and on the approval of the Council, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-Laws, and may revoke the same for cause with sanction of the Council.

Sec. 9. It shall divide the State into Councilor Districts, specifying what counties each District shall include, and, when the best interest of the Society and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies shall be members in such district societies.

Sec. 10. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Sec. 11. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

Chapter V.—Election of Officers.

Section 1. All elections shall be by ballot, and a majority of the votes cast shall be necessary to elect.

Sec. 2. The House of Delegates, on the first day of the Annual Session, shall appoint a Committee on Nominations, consisting of twelve delegates, no two of whom shall be from the same Councilor District. The Committee shall report to the House of Delegates one or more names for each office to be filled. No two candidates for President shall be named from the same county. Any person known to have solicited votes for or sought any office within the gift of this Society shall be ineligible for any office for two years.

Sec. 3. The report of the Nominating Committee and the election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the second day of the General Session.

Sec. 4. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

Chapter VI.—Duties of Officers.

Section 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, as far as practicable, shall visit by appointment the various sections of the State, and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the performance of his duties, and during his absence, or at the request of the President, one of them shall officiate in his place. In the case of death, resignation or removal of the President, the vacancy shall be filled by the Senior Vice-President beginning with the first. They shall perform all other duties prescribed for that office.

Sec. 3. The Treasurer shall give bond in such sum as the Council shall fix. He shall demand and receive all funds due the Society, together with the bequests and donations. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Sec. 4. The Secretary shall attend the General Meetings of the Society and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall read a report of the actions of the General Meeting. He shall be *ex-officio* Secretary of the Council. He shall be custodian of all record books and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall, with the co-operation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and, on request, shall transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the Council, and shall make an annual report to the House of Delegates. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment, collect the same, and at once turn it over to the Treasurer. Acting with the Committee on Scientific Work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Council.

Chapter VII.—Council.

Section 1. The Council shall hold an annual meeting in January of each year and shall meet daily during the Annual Session of the Society and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of Annual Session of the Society to outline work for the ensuing year. It shall elect a chairman and a clerk, who, in the absence of the Secretary of the Society, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his District. He shall visit the counties in his District at least once a year for the purpose of organizing component societies where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his District at the Annual Session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a proper itemized statement, but this shall not be construed to include his expenses in attending the Annual Session of the Society.

Sec. 3. The Council shall be the board of censors of the Society. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the

conduct of members or component societies on which an appeal is taken from the decision of an individual Councilor. An appeal from the decision of the Council may be taken to the House of Delegates.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Society through the Committee on Publication, or otherwise. All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Society, and all orders on the Treasurer for disbursements of money must be approved by the Council. It shall annually audit the accounts of the Treasurer and Secretary and other agents of this Society and present a statement of the same on its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary, or the Treasurer, the Chairman of the Council shall fill the vacancy until its next annual meeting in January.

Chapter VIII.—Committees.

Section 1. The standing Committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Publication.

A Committee on Necrology.

A Committee on Health and Public Instruction.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Sec. 4. The Committee on Publication shall consist of three members and the Secretary and Treasurer. The Committee shall be in charge of the affairs of the *Journal*, and shall appoint the Editor and Managing Editor. The Committee shall render an annual report to the House of Delegates and to the Council at its January meeting.

Sec. 5. The Committee on Necrology shall consist of all members of the Council and the Editor of the *Journal* and shall prepare for each session suitable biographical notices of deceased members.

Sec. 6. The Committee on Health and Public Instruction shall consist of three members. The term of service of each member shall be three years, provided that in the original organization of the Committee, the services shall be grouped by lot, into three divisions, with terms expiring one, two and three years respectively from the 1915 session.

Sec. 7. The Committee of Arrangements shall be appointed by the component society in whose jurisdiction the Annual Session is to be held. It shall provide suitable accommodations for the meeting places of the Society and of the House of Delegates, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session, as occasion may require.

Chapter IX.—County Societies.

Section 1. All county societies now in affiliation with this Society or those which may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application, receive a charter from and become a component part of this Society.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the Council by the House of Delegates and shall be signed by the President and Secretary of this Society. With the sanction of the Council, the House of Delegates shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws, or who may elect or retain as a member any physician guilty of unprofessional conduct as defined by the Statutes of the State of Wisconsin.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but, as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician who does not practice or claim to practice, nor lend his support to, any exclusive system of medicine, shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal, first to the Council and, finally, to the House of Delegates.

Sec. 7. In hearing appeals, the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, on request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the Society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the Annual Session of this Society each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Society, in the proportion of one delegate to each fifty members or major fraction thereof, and the Secretary of the society shall send a list of such delegates to the Secretary of this Society, at least ten days before the Annual Sessions.

Sec. 12. The Secretary of each component society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year. When requested, he shall furnish, on blanks supplied to him for the purpose, an official report containing such information to the Secretary of this Society.

Sec. 13. The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and list of non-affiliated physicians of the county to the Secretary of this Society between the first and tenth of April of each year.

Sec. 14. Any county society which fails to pay its assessment, or make the report required, on or before April 15, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Society or of the House of Delegates until such requirements have been met.

Sec. 15. Membership in a county society is forfeited by non-payment of dues prior to February 1st. A membership so forfeited may be regained upon payment of all arrears, or upon filing a new application for admission, which application must again take the regular course through the Board of Censors, etc.

Chapter X.—Miscellaneous.

Section 1. No address or paper before the Society except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject except by unanimous consent.

Sec. 2. All papers read before the Society or any of the Sections shall become its property. Each paper shall be deposited with the Secretary when read.

Sec. 3. The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 4. The Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

Chapter XI.—Amendments.

These By-Laws may be amended at any Annual Session by a majority vote of all the delegates present at that Session, after the amendment has lain on the table for one day.

"TODAY'S WORLD PROBLEM IN DISEASE PREVENTION."

The United States Public Health Service has recently published a 136-page book on venereal diseases, entitled, "Today's World Problem in Disease Prevention." It is a popular, nontechnical discussion of syphilis and gonorrhea by Dr. John H. Stokes, Chief of the Section of Dermatology and Syphilology of the Mayo Clinic, Rochester, Minn.

A limited number of copies of this book are now available, and until the supply is exhausted a copy will be sent to anyone who can use it advantageously. Applications should be made by letter addressed to the Surgeon General, United States Public Health Service, 228 First Street N. W., Washington, D. C.

FRANCE'S POST-WAR ANTI-TUBERCULOSIS CAMPAIGN.

France is rapidly mobilizing her resources for a great post-war campaign against tuberculosis. During the five years of war, the disease made great inroads, particularly in the devastated regions, and the beginning of a serious campaign was made while the war was still on, by the American Red Cross. The campaign has enlarged gradually, the French government has taken it up, and now the Rockefeller Foundation has decided to extend its work along this line, particularly in the Chateau Thierry and St. Quentin areas, where more than half the old population has returned to the ruined villages.

The same methods adopted by the Foundation in America will be used in the fight, and close co-operation maintained with the American Red Cross and French relief agencies. The Foundation is at present furnishing the funds for the establishment of three centers, and will provide French doctors for them. French nurses, trained by the Red Cross, will work with them.

In laying his plan before the Red Cross, Dr. Bernard L. Wyatt of the Foundation stated that by establishing the work in the larger cities first, he will be able to do more good at the start with a limited organization. Later, lectures and posters, demonstrations and motion pictures will be used in an educational campaign in the small towns. More than forty French girls who have already had nurse's training have volunteered to assist in the work.

HUMOROUS SIDE OF REHABILITATION.

BY MISS RUTH HUBER, MOBILE, ALA.

A dwarf-like man of 5 feet 1, who carried about the immense burden of 120 pounds of avoirdupois, and whose chest expansion was comparatively negligible, applied for a course in vocational education.

"What branch would you prefer?" he was asked.

"Opera singing, of course, what did you think I wanted?" was the indignant answer. He probably guessed that vocational had something to do with vocal, hence his footlight ambition.

Another applicant was a big husky negro, a former laborer. "I come ter see 'bout dis vacation eddjicashun. I needs a vacation mighty bad after mah long service in France." When he was made to understand that the vacation was to be spent at school he changed his mind.

The next applicant was also a negro. "I would lak to supply foah dis heah coas, it's name done escaped mah memory fo de moment." Of course he meant vocational education.

"What is your first choice?"

"I don thought it all over. I wants to do sumfin that I ain't never done before an that no colored gentleman is likely to do, sumfin out of the ordinary, so I decided to take the stenographer coas."

"Can you read and write, and spell?"

"Yes, I reads some an' I reckon I could learn to read an' write. Won't the Government learn me? Besides I understan' that it don't take much writin' or spellin' nohow for to become a stenographer."

After considerable explanation the would-be stenographer was converted to the choice of motor mechanics.

MOTOR MECHANICS POPULAR.

According to the statistics, motor mechanics is the most popular course. Even though we are threatened with a shortage of cars there will certainly be enough chauffeurs to go around. Other courses that appeal to the ex-fighters are the clerical work, barber trade, wireless telegraphy, and electrical engineering courses.

There is absolutely no consistency between a man's first and second choice. One application blank showed the first choice to be motor mechanics and the second to be the baker trade. The man who wanted to be a wireless operator took as his second choice farming. The would-be electrical engineer took the barber profession as his next preference.

In spite of the wild choices, after due explanation, each man eventually signs up for the job he is best fitted for. Applicants are urged to choose courses according to their previous experience, education, physical and mental abilities.

A WESTERN CURE.

There is a western legend of an Arizona bridegroom whose bride of a few months was missing. When asked where she was he explained with tears in his eyes that the poor woman had been thrown from her horse and he had been compelled to shoot her because her leg was broken, although "she was a fine girl and he loved her considerable."

Fortunately it does not take such drastic incidents as this to demonstrate the need of first-aid instruction, and this phase of Red Cross work is daily being brought to the attention of the people in this country with compelling force, demonstrating the absolute necessity of first-aid knowledge in the every day conduct of life.

Accidents are unforeseen. The person versed in first-aid is a tower of strength at such moments, and his prompt action is frequently the means of saving life outright. The courses of instruction in First-Aid Hygiene, and Home Care of the Sick, offered to the high schools by the American Red Cross means an opportunity for those upon whom the burden of home nursing usually falls, to learn how to handle such cases with the least effort and maximum result.

This instruction is not in the form of haphazard lectures, but is carefully planned and as systematically taught as any other part of the curriculum. It forms an unique and opportune supplement to the high-school courses in physiology and anatomy and taken with these subjects will be all the more vivid to the young students.

Accidents will happen in industry and at home. Few of us escape, whether by actual experience or indirect association. Instruction is the sanest method of meeting such emergencies and the general needs of the injured should be part of the common education of each individual.

THE WISCONSIN MEDICAL JOURNAL

OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 514 Wells Building, Milwaukee

Vol. XVIII. January, 1920 No. 8

EDITORIALS

Where Duty Points the Way

"To give what none can measure, none can weigh,
Simply to go where duty points the way;
To face unquestioning the fever's breath,
The hundred shadows of the vale of death;
To hear Christ's message through the battle rage,
The yellow plague, the leper's island rage,
And with our noblest 'well to understand
The poor man's call as only God's command."

—S. Weir Mitchell.

CHARLES RUSSELL BARDEEN, B. A., M. D.

THE medical society of the State of Wisconsin in electing Charles Russell Bardeen as its president for the year 1919-1920 selected a man whose professional career has been mainly identified with the scientific and educational side of medicine but who at the same time has been keenly interested in the problems confronting the practitioner of medicine as well as in the development of more exact methods in the diagnosis and treatment of disease and in the establishment of efficient methods in preventive medicine and in dealing with the problems of public health.

The son of an educator, Dr. Bardeen's preliminary training was carefully planned and before he entered college he spent a year at the Teichmann school in Leipzig where were laid the foundations of the clear and accurate reasoning and the direct methods of approach to the fundamentals in any problem, which have characterized his scientific, teaching, administrative, and public activities throughout life.

He was graduated from Harvard University with the degree of Bachelor of Arts in 1893 and entered the first class in the newly established medical school of Johns Hopkins University from which institution he received his medical degree in 1897, being the first recipient of the degree of doctor of medicine from this school which has been responsible for much of the advancement in medicine in this country during the past twenty years.

Following graduation Dr. Bardeen while attracted to practice of neurology and psychiatry finally elected to continue his work in the fundamental science for which he had shown great aptitude while an undergraduate student and was ap-

pointed an assistant in anatomy and embryology at Johns Hopkins University. As an associate professor of anatomy at this institution he was called, in 1904, to head the department of anatomy at the University of Wisconsin.

With the advent of Dr. Bardeen rapid progress was made toward the development of a two year course in medicine at Wisconsin. In 1907 he was appointed dean of the newly formed medical school and then exhibited his great ability in the selection of men for the faculty. During the years which have elapsed he has worked unceasingly, and with great sacrifice to his own scientific advancement, to lay a firm foundation for a medical school in this state. His rare judgment, his sound business policies and his true appreciation of the difficulties confronting the clinician and the clinical teacher have permitted only that development which would be permanent and of benefit to the citizens of the state.

As a scientist Dr. Bardeen's work has been mainly directed toward topics in human and comparative mammalian embryology, experimental morphology and physical anthropology. His early work on the effect of X-rays upon development was fundamental and of great value to our understanding of their effects upon the living cell. His most recent contribution on "the height-weight index of build in relation to linear and volumetric proportions and surface-area of the body during postnatal development" has laid the foundation for clinical investigations of far reaching character. His work upon the size of the heart in relation to the height-weight index has been of particular value to the clinician. Notwithstanding his interest in fundamental science no man in the profession has been more deeply interested in the social, economic and public health problems of medicine.

Dr. Bardeen holds membership in the Society of American Anatomists of which he is at present vice-president, and the Society of American Zoologists. In 1916 he was the president of the Association of American Medical Colleges and is still a member of the Executive Committee of that organization. As a member of the Committee on Roentgenology of the National Research Council he is in close touch with the development of this method of diagnosis and therapeusis in medicine.

Honored by national societies, both as a member and as an officer, it is fitting that the profession of the state of Wisconsin has conferred the highest honor within its power upon this man who has so zealously and unselfishly worked for the advancement of medicine.

THE JANUARY ISSUE.

THE January issue of the Journal is largely given over to the work of the House of Delegates of the State Society. It is a record of the various activities of the state organization. In it you will find the proceedings of your elected representatives, a report of all of your standing and special committees, the reports of your officers, an accounting of your funds, a business statement of your Journal, and membership and other reports of all the various component organizations.

The committee reports tell of the work done in defending our members against malpractice suits, of the work in health and public instruction, of efforts to protect the public and the profession against vicious legislation, and of work in elevating educational and hospital standards.

This is your Society, your Journal. These are your Officers, and your Committees. Their activities are yours and you are urged to become familiar with them that you may better do your part as a unit of the organization.

COMMITTEES FOR 1920.

THE following committees were elected by the House of Delegates for the ensuing year. Each member of these committees has been notified of his election and the chairman of each committee notified of those who comprise the committee of which he is the head.

President Bardeen has set out to make this a year of activity and achievement but results will not be attained without the support and co-operation of these committees and the entire membership of the Society. We must each of us be willing to undertake definite work and give willingly of our time and energy.

Election to a committee is not an idle honor. Acceptance means self sacrifice and a devotion to the cause. In plain words it means *Work* and no man should accept the responsibility of such election unless he is willing to give his best for the benefit of the society and the work and ideals it sponsors.

(For list of committees see pages 303-4.)

CONSTITUTION AND BY-LAWS.

IT has been many years since the Constitution and By-Laws of the State Society has been published. During this time, changes have been made from year to year. It is therefore published in this issue of the Journal and you are urged to preserve this copy for future reference.

We would also request every member to read the "Purposes of the Society" as given in the first sections of the Constitution. Are you, as a member, aiding your local society and its officers to attain that object? We hope you will contribute your personal efforts to attain that end during the meetings of the coming year.

RADIUM.

LIKE all other new things in medicine, the coming of the knowledge of Radium and its applicability to many forms of disease was greeted in the year 1913, when it was first brought before the professional world, with the most astonishing enthusiasm.

That it did have a sure place in the therapy of certain forms of surgical conditions and in skin diseases, was soon established, but like all of the over-estimated new discoveries, it has had its period of eclipse, and now stands, after six years of study, upon a tolerably well established foundation as to its value in the treatment of disease. The investigations of a very large number of clinicians in all parts of the world have proved its value as well as its dangers; and while, during the past year perhaps too much stress has been placed in the literature of radium upon the latter, the tendency of those using the element has been directed toward a more scientific and exact estimate as to what may be expected from it, and a well defined knowledge of the harms that may arise from it, has tended toward a much needed conservatism, that presages the establishment of sound bases for its understanding, and clearer indications for employment. It is a good sign of the times that the furor of expectation of marvels to come from its use, is now being followed by the period of establishment of facts, and the elimination of ungrounded enthusiasms. Somewhere between the madness of hope, and the skepticism of disappointment lies the middle-ground of truth. That we shall soon be put in a position of absolute knowledge as to the value of radium as a healing agency, seems to be certain, and that rules for its quantity, time and screening factors in treatment will be as accurately laid down, as can any rules for the use of any remedy, in its relation to that varying factor, the human body.

H. M. B.

THE JOURNAL CLINIC

Edited by
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(Address all communications direct to the editors)

Clinic of the Milwaukee County Hospital, L. M. Warfield, M. D.

The two cases reported in this Clinic are types of very common diseases. We were able to follow them to the postmortem table and to see the end lesions produced by the diseases. In the discussions are briefly given the tests which have been found of value in diagnosis, prognosis, and treatment. To many it may be too brief. The subject is an immense one and it is not possible in the space allotted more than to call attention to the tests.

Case 1. The patient, a man aged 46, who was a teamster by occupation, entered hospital on November 8th, 1919, complaining of shortness of breath, palpitation of the heart and swelling of the legs and genitals. He walked into the hospital although he appeared to be quite uncomfortable on account of his dyspnoea.

The family history shows the father died of apoplexy, his mother of Bright's disease. The patient is the only one of sixteen children. The cause of death of the other members of his family he does not know.

In his past record there was diphtheria and scarlet fever as a child. He was very ill with the former. At the age of 16 he had pneumonia.

He has always been a hard working man, either a teamster, or a stevedore. He has been a heavy drinker, but he denies venereal disease. He smokes moderately and has been a heavy eater.

He was in the hospital previously from May 19 to June 20, 1919, with a leg ulcer and at that time a positive Wassermann was obtained. The physical examination then was negative, except for a slight cardiac arrhythmia and a basal systolic murmur.

On entrance physical examination showed a rather powerful, fairly well developed man who had lost weight. The hair was scanty, pupils reacted normally, the sclerae had an icteric tinge and the eyes were somewhat watery. There was cyanosis of the lips and finger tips and the skin had a general sallow tint. In the neck the carotid pulse was visible, more marked on the left side. The jugular vein stood out prominently. The chest showed fluid in the bases of the pleural sacs, there was fluid in

the abdomen, marked edema of the legs and scrotum and lower back. The pericardial area bulged, apex beat was undulating in the sixth interspace 11½ cm. from mid-sternal line. The heart was not much enlarged to the right. There was palpable systolic thrill at the apex and a blowing systolic murmur transmitted to axilla and back. There was also a diastolic murmur heard along the left border of the sternum.

Pulse was water hammer, both pulses equal. Pulse deficit 20 to 30. Very slight arteriosclerosis. Some dulness beneath the manubrium. Blood count was normal. There was no fever. The urine showed 1012 to 1020 specific gravity, was never very much in amount, contained albumin, hyaline and granular casts. There was bile present in the first specimen. The patient was very restless, was unable to use bed pan, showed a tendency to Cheyne-Stokes respiration. The Wassermann test of blood was positive. The blood pressure was 120-50. The phthalein was practically nothing in two hours. He was given digitalis and diuretics and improved temporarily. His diet was a low caloric one, for the first few days a strictly Karrel diet.

On the 15th of November 400 c.c. of blood were removed by venesection. Attempts were made to have him take the Mosenthal diet test, but through lack of his co-operation it had to be discontinued. The creatinine of his blood was as follows:

Date	*Creatinine*	*Urea*
11-11-19	3.5 mg.	49.3 mg.
11-16-19	2.35 "	24.4 "
12-1-19	2.7 "	35.2 "

On November 23rd he seemed much improved. He was up and around. The heart had become regular and his urinary output was larger. However, his blood pressure on December 5th showed only a systolic 98—diastolic 64. He was feeling cold and trembly. He rather rapidly passed into unconsciousness with an irregular pulse, his blood pressure became lower and he died at 10:00 A. M., December 5th, 1919.

At autopsy there was found, in brief, marked congestion of all the organs, general anasarca, hypertrophy of the heart with fibrosis, partially healed tuberculosis of the right apex, sub-acute aortic endocarditis. The heart was enlarged, the right side much dilated, the right auricle stretched to paper thinness. One of the aortic valves showed rather recent thick vegetations and one of the cusps of the valve was thickened and shortened.

Discussion: The most interesting point lay here in the question of syphilitic aortitis with aortic insufficiency. The headaches, the stupor, the modified Cheyne-Stokes breathing, the albumin and casts, the failure to pass any appreciable amount of phthalein in two hours pointed to some serious kidney lesion. Besides his general edema there was puffiness under the eyes and the bleary eye of the nephritic. The results of the blood chemistry examinations, creatinine and urea, lent some color to the probability of a primary kidney lesion.

On the other hand, the evident cardiac decompensation with dilated aorta, aortic diastolic murmur, Corrigan pulse, and positive Wassermann reaction, were evidence for syphilitic aortitis with decompensated heart. Further, the low blood pressure was of value in ruling out chronic interstitial nephritis and the low diastolic pressure confirmed the diagnosis of aortic insufficiency. We thus had a considerable collection of data which to some extent was contradictory. That is to say, the blood chemistry was that of a nephritis, especially when taken in conjunction with the low phthalein output. However, values for creatinine and urea (non-protein nitrogen above the normal of about 1 mg. per 100 c.c. blood and 18 mg. per 100 c.c. blood respectively), are sometimes found in cases of great passive congestion of the kidney. The congestion is so severe that substances normally picked out by the kidney from the blood are retained in the circulation. What is more unusual in cardiac cases was the almost total absence of excretion of phenolsulphonephthalein in two hours after the intramuscular injection of 1 c.c. (6 mg.) of the drug.

So it seemed that the most probable lesions were syphilitic aortitis and cardiac decompensation with the so-called small white kidney, the chronic tubular form of nephritis with passive congestion. In contrast to the chronic interstitial, red granular kidney the blood pressure in the tubular type is not usually high. The autopsy revealed no syphilitic lesion of the aorta. There was aortic insufficiency with old thickened and shortened valves and a patch of reddish, partially organized raised vegetation on the ventricular surface of the anterior leaflet of the valve with a somewhat similar patch on the mitral valve opposite the aortic patch. These areas were rather recent and were not suspected during life. The kidneys were large, beefy and firm. On cut section they were greatly congested. They were kidneys typical of patients dying of chronic cardiac disease.

The treatment of such cases often presents difficulties. This patient was difficult to handle. He would not remain in bed and could not use a bed pan. He did not cooperate at all in treatment. In any case of cardiac decompensation from whatever cause digitalis is indicated. It acts much better in the rheumatic mitral cases than in any other type of decompensation. Recently G. C. Robinson has advocated the administration of one large dose of a standardized tincture, approximately 1 c.c. per 12 lbs. of patient. As much as 20 c.c. have been given in a single dose. The effect, according to him, lasts about ten days. Although digitalis poisoning is to be avoided the physiological effect of digitalis is to be gained in every case. A patient to whom digitalis is given for therapeutic effect should be carefully watched. It is questionable if small doses, 5-10 minims, have any effect in regulating the decompensated heart.

Venesection is often a life saving procedure. It is indicated in cardiac decompensation when the cyanosis and dyspnoea are extreme, and in coma and convulsions of uremia. Not less than 500 c.c. of blood should be taken. The writer has taken 1700 c.c. at one time from a large man. This man recovered sufficiently to return to his work. The tendency is to take too little blood out rather than to take too much. If venesection is performed properly the vein should not be destroyed. It is best to select a prominent vein at the bend of the elbow. Constriction with a rubber tube at the middle of the

upper arm should be just about the pressure of the diastolic pressure. In this state the veins stand out prominently, but the pulse at the wrist is still strong. After sterilization of the skin with ether and alcohol, or iodine and alcohol, one chooses a curved bistoury with a sharp point and sharp cutting edge. With a quick thrust just to one side of the vein and a quick cut from within out a wound scarcely longer than ¼ in. is made and the vein is cut across at its superficial portion only. If the technique is good and the blood pressure is not too low the flow is in a steady stream. When enough blood has been withdrawn the arm constriction is released. The bleeding in practically all cases ceases at once and a small sterile pad is placed over the skin incision. This is held on with a bandage or with adhesive straps. Occasionally when there is hypertension it may be necessary to bandage with pressure. It has never been necessary to use stitches to close the wound. After a few days a very small scar is present and the vein is found to be patent.

There is one very practical point in venesection. As the vein is cut the pressure in the vein is often great enough to cause the blood to spurt several feet. If an assistant holds a bowl inverted over the arm to catch this spurt, then quickly turns the bowl to catch the flowing blood no one will be spattered. Failure to observe this precaution has made a room look as if it were a slaughter pen and has covered the operator and assistant with blood from head to foot.

The contentions of some enthusiasts that every case of cardiac or renal disease is not properly handled unless the creatinine of the blood is estimated fails to take into consideration the conditions of general practice. It is possible to do the phenolsulphonephthalein test on practically all cases. Information so gained is of exceeding value and serves both as diagnostic and prognostic data. As a matter of fact, the phthalein and creatinine are reciprocal. The greater the amount of creatinine in the blood stream the less the phthalein output. Normally, the phthalein is high, 60-80 per cent excretion in two hours, and the creatinine is low, from .8 to 1.5 mg. per 100 c.c. of blood. It is strongly urged that the phthalein test be more widely used. Full directions for its use are enclosed in the box of ampoules.

Case 2. A laborer, aged 51, entered the hospital on June 30, 1919, having been discharged only eight days previously from a stay in hospital since January 20th, 1919.

There was a record of six admissions, as follows:

Jan. 26, 1916—Frozen fingers and acute articular rheumatism.

Sept. 9, 1916—Acute articular rheumatism, arteriosclerosis.

Jan. 10, 1917—Subacute articular rheumatism.

Feb. 15, 1917—Chronic articular rheumatism.

Mar. 14, 1918—Chronic interstitial nephritis.

Jan. 20, 1919—Chronic interstitial nephritis.

The record of his blood pressure on the first admission was 135-85-50.

On the next admission it was 160-110-50.

In 1917 a reading gave 165-90-75.

On all admissions the blood differential count was normal, or showed a slight increase of the polymorphonuclears with a slight leucocytosis. The phthalein in 1917 was 35% in two hours and the W. R. doubtful positive. In 1918 the phthalein was only about 10% in two hours and the blood pressure remained around 180-90-90. There were low specific gravity and considerable albumin. He was venesected in February with considerable benefit. His phthalein became 25% in two hours. The blood pressure remained about the same. He went to live at the County Infirmary, but left there after a few weeks and went to his boarding house. There was both a history of tuberculosis and of rheumatism in the family. He had had pneumonia when 20 years of age, malaria at 25 years. He had had both gonorrhea and a genital sore. He has been a heavy drinker, often drunk and drinking whisky constantly. For the past 10 years he has had a bad cough. He has frequent attacks of joint pains and swelling of the joints with fever. He has been short of breath on exertion and has had occasional edema of the feet which was worse at night and had disappeared in the morning.

He has been a day laborer. His digestion was fair and he was a heavy eater as a rule. He entered hospital the last time complaining of rheumatism, headache, shortness of breath and weakness. On examination he showed slightly irregular pupils which reacted normally. There was internal strabismus of right internal rectus. Throat and neck negative, teeth poor condition.

The chest revealed limited expansion in right upper with hyperresonant note, tactile fremitus and vocal resonance much increased, and bronchial breathing with mucous and crepitant rales at end of inspiration.

The heart was enlarged, there were no murmurs. The liver was enlarged, the spleen was not palpable nor enlarged. There was definite palpability of the sperficial arteries and redness and swelling of the left elbow joint.

The W. R. was negative.

The *course* was gradually down. The blood pressure was always about 180 systolic and 110-120 diastolic.

Off and on he had headaches and vomiting. The phthalein was barely 10% to nothing in two hours. The creatinine and urea in the blood rose steadily from 1.7 mg. on October 12, 1919, to 4 mg., on November 15, 1919. The urea rose at the same time from 29.1 mg. to 65.3.

The Mosenthal diet test always showed low fixation of specific gravity, greater night than day urine, retention of both salt and nitrogen and inability to concentrate in the night urine.

The chemical examination of the urine always showed albumin and finely granular and hyaline casts.

He suffered from uremic symptoms for several months before he died. Towards the end he had insomnia, dyspnoea, nausea and vomiting.

The blood pressure began to fall until two days before death it was 140-80-60. He became more and more uremic with twitchings and orthopnea. He died rather suddenly on November 30, 1919.

Autopsy December 1, 1919. The interesting findings were as follows: Partially healed tuberculosis of the

right upper lobe near the apex. Bilateral hydrothorax. Acute sero-fibrinous pericarditis with bloody effusion. Hypertrophy and dilatation of the heart, all chambers. Cirrhosis of liver with chronic passive congestion; C. P. C. spleen and perisphenitis. Chronic diffuse glomerular nephritis (red contracted kidney). Ascites and edema extremities. Diffuse arteriosclerosis.

Discussion: The history, the course, and the laboratory findings combined to make us sure of the diagnosis, which was chronic interstitial nephritis and uremia. A point of interest was exposed at the autopsy, that is, the fibrinous pericarditis. This is a not infrequent complication and may be the immediate cause of death.

The etiology of the nephritis is not clear, it rarely is so definite that one can say this or that disease is responsible for the chronically contracted kidney. Both pneumonia and malaria appear in the record. Neither is usually followed by chronic kidney disease. He had a venereal sore years ago, but recently the W. R. was negative.

There were several attacks of acute arthritis. Alcohol to excess has not been proven the kidney poison which it was at one time thought to be. As a laborer he did hard work and ate coarse food and was subject to numerous small infections. His teeth were in bad condition. Of all these probable factors the heavy eating and bad teeth seem most concerned with the etiology. Probably the organism responsible for his repeated arthritis also attacked the kidney.

The blood pressure was characteristic; that is, hypertension with both systolic and diastolic raised. Towards the end heart failure set in and the systolic fell faster than the diastolic.

The urine showed fixation of specific gravity irrespective of diet or water intake. This is characteristic of cases of advanced contracted kidney. The full regime to determine the reaction to ingestion of food (protein), water and salt is known as the Mosenthal diet and is not so easily carried out as its advocates contend. In a well-organized, well-equipped, well-manned hospital it is usually readily done. In practice it would be in many cases impossible.

What can be done and much valuable information can be derived therefrom, is to have the patient take a known diet with a known amount of fluid. The urine is collected in two samples, day 7 A. M. to 7 P. M., and night 7 P. M. to 7 A. M. Normally the day urine is about twice the amount of the night urine and the specific gravity is several points lower than the night urine. In other words, during bodily rest the normal kidney sleeps to a certain extent in that it passes out less fluid and less solids, but also concentrates them, thereby producing a relatively high specific gravity.

Further, the total 24 hour urinary output should be not more than 300 c.c. less than the intake of fluid. The 300 c.c. is accounted for in the vapor from the lungs and in the water of the sweat. Constant deviations from this show some functional incapacity of the kidney. At the extreme of the scale is the kidney which excretes urine of a fixed low specific gravity day and night, secretes more night than day, retains more water in the body and fails to pass out enough solids. It is the retention of one or more of these solids which produce uremia. An index in the blood is the increase in creatinine, urea and total nonprotein nitrogen. It is not probable that these actually bring on uremia, although it has been shown by Hewlett and others that headache, nausea, drowsiness and twitching can be brought on in normal persons by ingestion of large doses of urea sufficient to produce an increase in the blood. Marriott thinks that the acid phosphates are directly responsible for the uremia and Foster has isolated from the convulsive type of uremia a substance which is crystalline and which produces convulsions when injected in minute doses into animals.

In treatment the object is to readjust the metabolism and assist the much embarrassed kidneys to eliminate the harmful products circulating in the blood at the same time to discover and remove, if possible, the cause.

A carbohydrate-fat diet is the blandest which can be given. Protein end-products seem to increase the work of the already overburdened kidney. Water and alkalies and the bland diuretics are chosen. It has been the belief of most men that such drugs as diuretin and theocin do more harm than good when the kidney is actually diseased. In the cases of heart failure complicated by edema they are indicated. It appears to be safer to give sweet spirits of niter, liquor ammoniae acetatis, the alkaline citrates, etc.

How may the toxic products be removed? The writer's practice is venesection followed by intravenous injection of 2 per cent sodium bicarbonate. The injection is not always given. Much is said pro and con about sweating. Sweating whether produced by means of dry or moist heat is exhausting, uncomfortable, it does take away water, but no one has ever been able to prove that it removes the smallest part of the poisonous products responsible for the uremic symptoms. Rarely, now, the writer may advise it in strong people with well beating hearts. Even in hospital practice it has been discarded in favor of venesection, intravenous alkali and regulation of diet. No one can hope to rejuvenate an old fibrous kidney. It is surprising how long one can tease it to work.

The phthalein may be zero in two hours, the headache and twitching may be quite marked, but the patient may live several weeks, all the time showing definite uremic symptoms. Patients do not get well. Rarely one recovers to such an extent that he goes on for months free from symptoms. Within a few hours he may pass into coma and die.

There are many of these cases of chronic interstitial nephritis. With care and attention they can be kept fairly comfortable and their lives may be prolonged.

If anyone shall crush the right testicle of a wolf and mix it with oil, and shall apply the same to the privities of a woman, upon a little wool: it shall straightway remove her desire for copulation even as if she had just been well covered.—*Albertus Magnus. Lib. de Animalibus.*

PREVENTIVE MEDICINE

Edited by
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STOOL EXAMINATIONS FOR THE DIAGNOSIS OF INTESTINAL PARASITES.

BY W. D. STOVALL, M. D.,
MADISON.

In a previous article the importance of stool examinations for intestinal parasites with particular reference to flagellates was discussed. It therefore seems appropriate that a brief description of one of the flagellates, Trichomonas Intestinalis, be given and that a brief statement be made of the most satisfactory methods of examination.

MORPHOLOGY.

Trichomonas intestinalis shows more or less variation in size and morphology but generally speaking measures 10 to 15 microns in length and 3 to 5 microns in its greatest breadth. Many are pear shaped although forms are seen which are almost spherical. Three equal flagella spring from the anterior end of the body. Another somewhat stouter flagellum runs posteriorly, forming the margin of an extension of the ectoplasm, and is continued as a free lash beyond the posterior end.

METHODS OF EXAMINATION.

The method of examination for the presence of trichomonads depends upon whether the specimen is fresh or old. There is no particular difficulty in finding these organisms in the fresh stool. The mucous shed in the stool always contains large numbers of trichomonads. If a piece of mucous from a fresh stool is washed in a few drops of salt solution, which has previously been placed on a clean glass slide, the organisms are easily seen with the 4 mm lense. The anterior flagella are not seen with this lense but the one posteriorly, which is considerably larger than those anterior, can be seen. It moves very rapidly with a whip-like movement. A more distinct view is obtained if a cover slip is carefully placed over the wet preparation and the oil immersion used. This is not so easily done as a thin cover slip is required and even then the light pressure made upon the cover slip in an effort to bring all depths of the field into view agitates the preparation to such an extent that individual organisms can not be viewed satisfactorily until the field is quiet. A diagnosis can be made without the oil immersion. For routine diagnosis the 4 mm lense is better.

With a wet preparation such as has been described above the dark field examination is the most satisfactory. The organism stands out very distinctly and the morphology and appendages are easily seen. This examination requires expensive apparatus, and careful technique in order to get satisfactory results.

The most common difficulty, particularly with those who are not doing laboratory work all the time, and even laboratory workers who are not familiar with this examination, is in obtaining a preparation of the proper density. The very thick preparations are entirely unsatisfactory. The thinner the preparation the better. When the mucous is selected an effort should be made to separate it from the rest of the stool carrying away as little of the feces as possible. If this is done properly very little fecal matter will be carried over, and when the mucous is washed the solution will be more milky than brown or muddy. There will be no large lumps and the cover slip will fit down nicely on the preparation.

As to securing the specimen, I have not found it necessary to give a purgative in order to find the organism. They have always been so abundant in the mucous, which I have always found in the normal formed stool that there has been no difficulty in locating them. It is true, however, that a dose of magnesium sulphate increases the numbers shed. The liquid stool after such a purgative contains many small flakes of mucous and large numbers of trichomonads. Several days following the purgation these organisms are very apt to be very much diminished and even difficult to find.

So far I have said nothing about old specimens, that is, specimens which are collected several hours before they are examined or which have been transported a long distance in order to reach a laboratory and are therefore a day or two old when received for examination. In these old specimens the morphology of the organism is considerably altered. They lose the pear shape, become spherical and have no motility. These are apparently cyst forms. The technique which is best suited for the detection of the cyst forms is that described by Donaldson in the Lancet in 1917. I have used his wet stained preparation in the following manner. The mucous is selected as already described and washed in salt solution as also described. A loop-

ful of the solution in which the mucous has been washed is mixed well with the stain. The stain consists of two solutions which are used in equal quantities.

A. Five per cent aqueous solution of KI saturated with iodine to which is added an equal volume of either;

B. (1) Saturated aqueous solution of rubin S or
(2) A saturated aqueous solution of eosin.

I have used the eosin. To obtain the best results the films must be very carefully made. The technique, however, is not difficult and is soon learned. In these preparations there is a homogenous background from which the cysts stand out very brilliantly. This method was described with special reference to the recognition of cysts of E. Hystolytica.

Examination for Ova of Intestinal Parasites.

In the Journal of the American Medical Association for November 9, 1918, Kofoid and Barber give a technique for the rapid detection of ova of intestinal parasites which they prefer to other methods. They use a concentrated brine to force the eggs to the surface, and steel wool to remove the light coarse material which also floats. They describe the technique as follows:

The stool is prepared for examination by stirring the specimen in concentrated brine with a small wooden stick until the brine is considerably discolored and the contained ova released from the feces. The amount of stool to be used varies with its consistency and composition. Not more than one-third of a canful, can 1½ inches in diameter and 2½ inches high, capacity, 2 ounces, is ordinarily used. The can is filled nearly full with brine and the stool, if putty-like and resistant, is broken up against the sides of the can. After stirring until the desired consistency is attained, the stick is removed, and a circular filter of No. 0 or No. 1 long fiber steel wool is carefully pushed to the bottom of the can. This effectively removes from the surface the lighter coarser float, breaks up the air bubbles and leaves the surface suitable for looping of the floating ova. If too little wool is used the coarser material will not be removed, and if too much the ascent of the ova is interfered with. Usually a lightly compressed disk, one-eighth to one-fourth of an inch thick is sufficient. From 1 to 2 pounds is sufficient for 1,000 examinations.

The specimen is prepared for microscopic examination by looping off the surface film to an ordinary glass slide. The loops for this operation may be made from unraveled window screen or similar fine galvanized wire. Each loop is formed around a glass or wooden cylinder about one-half inch in diameter, the shorter end twisted around the longer, which forms the shaft to close the loop, which is then bent at right angles to the shaft. The surface loop will usually adhere to wire when the submerged loop is lifted from the brine. Ova in the film are removed with it. It has been found advisable to loop the surface near the sides as well as the center of the can.

The number of loopfuls necessary to make a fair sample for microscopic examination depends on the capacity of the film removed. About ten loopfuls will skim the entire surface of the brine and makes a convenient amount to handle on the slide. One skimming does not remove all the ova as they are not all in the top film. If ova are present in numbers they are obtained at once. The cans are allowed to stand for one hour to allow the ova to accumulate in the top layers. Ova may be found on the top surface after twenty-four hours but are considerably decreased. In warm weather they may have all descended in five hours. The preparation should be examined after standing one hour.

DIPHTHERIA, VINCENT'S ANGINA AND OTHER INFECTIONS OF THE NOSE AND THROAT.

BY W. D. STOVALL, M. D.,

MADISON.

The diagnosis of diphtheria can not be made clinically in all cases. This most everybody admits. If it can not be accurately diagnosed clinically in all cases then it seems that there must be some doubt about the clinical diagnosis in every case.

There are several infections which produce a pseudo-membrane in the throat, nose and on other mucous surfaces of the buccal cavity, which can not be differentiated clinically from that produced by the diphtheria bacillus. These infections cause an elevation of temperature and other toxic manifestations which also can not be differentiated accurately from the symptoms produced by diphtheria toxin without microscopic and cultural examinations. Some of the organisms causing these infections are streptococci, pneumococci, and fusiform bacilli associated with spirilla.

The fact that these organisms cause a membrane and toxic conditions, which may be confused with similar conditions caused by diphtheria is not the only thing that confuses the clinical diagnosis. In cases of diphtheria it sometimes happens that no membrane is formed; that the only evidence seen in the throat is some oedema and congestion. Then too it happens that the cases which would be called from clinical appearances follicular tonsilitis from bacteriological diagnosis are proved to be due to the diphtheria bacillus.

Under such confusing circumstances, a number of different infections manifesting the same or very nearly the same signs and symptoms, it is difficult to see how one can ever feel certain of an unaided clinical diagnosis in these cases. Inasmuch as a congested sore throat may be diphtheria, and a membranous infection of the tonsil may be something besides diphtheria without actually knowing from the bacteriological results what organism is causing the trouble, it is difficult to see how a diagnosis can be made.

The assistance of bacteriology is necessary before the identity of the less typical examples can be proved, and bacteriological methods should always be employed in cases of persons presenting throat or nose lesions, who have recently been in contact with diphtheria.

Recently I was invited in to see a case which illustrates the point. The patient was a young man about 26 or 27 years of age. He had a temperature of 102½ and a pulse rate of 120. Examination of his throat showed a profuse membrane over both tonsils. The odor was very offensive. Three physicians, including myself, saw this case, and we all agreed that it was a case of diphtheria. However, I took cultures. Antitoxin was administered at once. Examination of the cultures after proper incubation showed no diphtheria bacilli. A piece of the membrane which clung to the swab when the culture was made was smeared out on a glass slide, and stained. The smeared preparation showed large numbers of fusiform bacilli together with spirilla. The clinical diagnosis of diphtheria was not correct. The correct diagnosis was Vincent's Angina.

The use of antitoxin in this case before bacteriological examination to confirm the clinical diagnosis was made was undoubtedly the right course to follow. The patient was a considerable distance from a laboratory. The laboratory report could not possibly be had for twenty-four hours or longer and during this time much harm could be done by delaying antitoxin treatment if the case was one of diphtheria. At least all the advantages were in favor of the immediate use of antitoxin. It certainly could do no harm and it looked as if it might do much good.

It is my opinion that from every sore throat no matter how trivial it may seem or how certain it may seem that the case is one of diphtheria, cultures should be made for bacteriological diagnosis. There is no other way to be correct every time, and probably the only way to be correct in the majority of the cases. I also feel that antitoxin should be given in every case where there is good reason to suspect diphtheria from the clinical manifestations, immediately. If the bacteriological diagnosis confirms the diagnosis of diphtheria, the proper treatment has been carried out. If it does not confirm the diagnosis, no harm is done.

For the sake of the rest of the family and the community all cases of sore throat should be treated as diphtheria cases until a positive diagnosis is established. I mean to say that all of these cases should be immediately isolated and the family warned that the patient might have diphtheria and that the usual precautions used against diphtheria should be used until a bacteriological diagnosis is made.

Inasmuch as I have said so much concerning the inaccuracy of the clinical diagnosis, it is proper now to say something about the interpretation of the bacteriological results.

Bacteriological evidence in a few instances may be at fault in the first examinations. This should occur in very few cases when the swabs are carefully taken. The laboratory recommends that if the first swabs show a negative finding that second swabs be taken. If the second cultures show no diphtheria bacilli I believe that a negative diagnosis to diphtheria is indicated. In those few instances when the swabs show no diphtheria bacilli there are several things which may have happened. They may have been retarded or overwhelmed by the accompanying bacteria, or they may have been inhibited by the presence of antiseptics or for some other cause the bacilli have not developed. The proportion of erroneous bacteriological diagnosis from all causes is very small.

So far I have spoken of diphtheria from the standpoint of the patient and the diagnosis of the

disease. There is another problem which is just as important. The spread of this disease takes place from sick persons and carriers. The prevention of its spread is possible. It requires a good deal more care, however, than is taken at present.

The effective control of diphtheria requires several things. An early diagnosis and immediate institution of preventive measures, use of antitoxin, isolation, and instruction to the family, are of considerable importance under our present methods of handling the disease. The proper releasing of persons who have recovered from the disease is the most important single factor if one factor can be said to be more important than another. It is well known that every convalescent carries diphtheria bacilli for a longer or shorter time in the nose, or throat, or both. If these people are allowed to go from isolation without cultural tests, release cultures, carriers will be sent into the school and community to spread the disease. So far as the public health is concerned the release culture is more important than the initial culture for diagnosis. The convalescent from diphtheria is more dangerous than the sick person. The convalescent is able to move around and if allowed to go before release cultures indicate that it is safe, much harm is done.

Just in this connection it is interesting to see what is being done both as to the use of the laboratory for diagnosis and the release of these cases. During November there were reported to the State Board of Health 314 cases diagnosed diphtheria. The laboratory made only 72 positive diagnoses on initial cultures for diagnosis. It is evident that many more cases have been diagnosed clinically than bacteriologically. If we consider the releases from these 314 reported cases, we find that if every case had been released according to the rules of the State Board of Health, that is, two negative swabs taken twenty-four hours apart before a case convalescent from diphtheria can be released from isolation and quarantine, the laboratory would have received 628 swabs for release which would have been negative. The laboratory records show, however, only 461 negative cultures for release. This calculation takes for granted that in every case the first release cultures would have been negative, which, of course, would not have happened. This increases the number of cases which have been released without cultures over what the figures indicate. It is natural after seeing these figures to ask how many cases have been diagnosed diphtheria which were not diphtheria, and if these cases were not released by the cultural method how were they released? Was the old rule of an arbitrary fourteen day quarantine enforced? These questions can not be answered. We do know, however, that we have had a good deal of diphtheria, which could have been prevented, and that if the old fourteen day quarantine period was enforced many people have been made to suffer the inconvenience of a fourteen day quarantine when by the cultural method they might have been released in four or five days or a week, and that even after the fourteen day quarantine a few have continued to carry diphtheria bacilli in their throat or nose and have been turned out to spread the disease.

Notwithstanding this condition, however, much effort has been put forth to prevent the spread of diphtheria and much good has been accomplished. One question comes up, however, which seems worth while discussing. What method is the best to check or prevent an epidemic of diphtheria? During the past few months the laboratory has received a large number of swabs obtained by going into a school and taking a swab from the nose and throat of every child because diphtheria has occurred among the children. Under certain circumstances the taking of swabs from all children is advisable. It seems a particularly advantageous thing to do when the schools first open in order to cull out at once the few carriers present. It is not in every case the most economic and surest way to stop the spread of the disease. When swabs are taken from each person in the school without further controlling each individual very little is accomplished. If the outbreak is due to some carrier or to a child or person who is just coming down with the disease, by the time all the swabs have been taken and sent to the laboratory for diagnosis further exposure has taken place. This means, of course, that in five to seven days other cases will appear from which exposures will have taken place and so it goes. It is evident that we are soon traveling in a circle. I do not wish to be misunderstood; sometimes this sort of a procedure is necessary but it is not necessary in every case. And that brings us to the point that each epidemic is an individual affair requiring definite and detailed plans of investigation. The methods employed will then be indicated by the circum-

stances, revealed by the investigation. I mean that a study of the situation by investigating the occurrence of the cases with relation to each other might indicate that it is necessary to get cultures only from the children in one room or in a certain grade and not from the whole school. There might be some relation between the cases which would point to a condition outside of the school which needed attention before a check in the occurrence of the disease could be expected. To say it in a word, definite methods should be employed instead of haphazard methods.

Years of experience have shown that under the present method the complete eradication of diphtheria can not be accomplished. It can, however, be completely eradicated. This can be done by the systematic application of the Schick test and the subsequent vaccination of the non-immunes with toxin-antitoxin mixture. This can be done without much trouble. It seems most advisable to attempt this only where people come together in large numbers and are under some discipline. This means, of course, the schools. It seems to me to be very impractical to attempt the use of the Schick test and toxin-antitoxin vaccination in private practice or individual families. The reasons are obvious. In a family where diphtheria has occurred if the rest of the family need immunization they need it at the time and they need to be given something which carries the immunizing properties with it, antitoxin. If the Schick test is used under such circumstances much time would be consumed before producing any immunity in the patient. The Schick test requires 72 to 96 hours before the reaction can be considered negative. If the test is positive and immunization with toxin-antitoxin is begun there will at least six weeks elapse before complete immunity is established and in some cases a much longer time. It appears then that this procedure is not useful to meet an emergency but more to produce a lasting immunity against a time when it will be needed. It is possible by this method to start out in the school, where the children can be taken by grades or rooms, and where they can be organized to facilitate the work, and where large numbers of tests can be carried out in a short time, and completely immunize the next generation against diphtheria, which means its eradication.

The Schick test, together with swabs, and the use of antitoxin make a very efficient means to control an epidemic which has gotten under way in schools and other institutions where children are brought together.

Organisms which have been found associated with Non-diphtheritic Membranous Lesions of the Mouth, Nose and Larynx.

Streptococci. Numerous observers have recorded cases of membranous inflammation of the mouth in which streptococci have been the only organisms present. Prudden (1889) studied a series of 22 fatal cases, and Woodhead (1901) found streptococci to be the only organisms present in 565 out of 1,960 cases diagnosed on clinical grounds as diphtheria, in which no evidence of diphtheritic infection was obtained.

Staphylococci. Examples of membranous inflammation due to staphylococci are of very common occurrence, and even limited outbreaks of this disease have been described.

Mixed infection with streptococci and staphylococci is a more common cause of pseudo-diphtheritic lesions than pure infection with either of these organisms. Woodhead, for example, found that 985 (50.2%) of his 1,960 cases of pseudo-diphtheria were caused by mixed infection with these two organisms.

Pneumococcus. Cases of membranous inflammation of the fauces, occurring during the course of pneumonia, have frequently been observed, and many instances have also been recorded unaccompanied by pneumonia (Concetti (1893), Chaillou and Martin (1894), De Blasi and Russo-Travali (1896), Möller (1903), etc.) Some examples of very extensive lesions are recorded, for example exudation covering the tonsils, pillars of the fauces and uvula (Jaccoud, 1891, or the entire pharynx, palate, lips, and nasal cavities (Vedel, 1898). In both these instances pneumococci were the only organisms found, and in the latter case their virulence was proved. Perhaps the most remarkable example of extensive membrane formation by the pneumococcus is that described by Cary and Lyon (1901). During an attack of acute lobar pneumonia there occurred profuse pseudo-membranous exudations upon nearly all the mucous membranes of the body, tonsils, lips, gums, cheek, under surface of tongue, soft palate, fauces, nose, conjunctiva, anus, and glans penis. Diphtheria bacilli, streptococci, saccharomyces, etc., were all looked for, but were not found. Virulent pneumococci were proved to be the only organisms pres-

ent in all the lesions. Another very interesting case was observed by Netter (1891). A boy aged three years suffering from varicella showed urgent symptoms of laryngitis requiring tracheotomy, through the wound of which a false membrane was expelled containing no diphtheria bacilli but only pneumococci. A similar case is also recorded by Seuvre (1898). In summarising his observations on the infections of the mucous membranes by pneumococcus Foulerton (1902, p. 293) makes the following remarks. "The exact bacteriological identification is rendered difficult by the fact that the organism is a frequent parasite of the healthy mouth. But the number of cases in which there are the formation of false membrane and destruction of the superficial layer of the epithelial membrane associated with the presence of the coccus and without any other of the bacteria—B. diphtheriae, Streptococcus pyogenes, Saccharomyces albicans—which are known to cause similar lesions, leaves little doubt as to the fairly frequent occurrence of an acute membranous pharyngitis due to this cause."

Bacillus of Friedländer. This organism has been occasionally found in cases resembling diphtheria (Michelazzi, 1904). Nicolle and Herbert (1897) found it in pure culture in six out of 1,600 cases of angina, and state that it is capable of producing chronic, subacute and acute anginas, sometimes accompanied by a continuous membrane.

Bacillus coli. Lemoine (1895) observed bacillus coli together with streptococci and pneumococci in false membranes, and Chaillou and Martin (1894) noted two cases in which liquefying organisms resembling bacillus coli were alone present.

Fusiform bacilli. Vincent (1896) was one of the first to call attention to the presence of fusiform bacilli and spirilla in connection with ulcerative and membranous conditions in the mouth. Consequently the pathological process associated with these organisms is termed Vincent's angina.

The microscopic diagnosis of this disease is made from stained smeared preparations which have been made by direct smears; that is, by smearing some of the material on a glass slide just as in the diagnosis of gonorrheal pus. The organisms are grown with difficulty and therefore the cultural method is not used as in diphtheria. It is not needed as the diagnosis from the smears is plain and positive.

THE NEED FOR MORBIDITY REGISTRATION IN WISCONSIN.

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Morbidity registration, a valuable aid in the control of communicable disease, has not received the careful attention in Wisconsin that its importance warrants. While due stress has been laid upon such control measures as diagnosis, prophylaxis, treatment, quarantine and disinfection, thereby increasing their relative efficiency, the obvious advantages of prompt, complete and accurate reports of preventable sickness have largely been overlooked. This failure properly to utilize an important means of preventing unnecessary sickness and death may be ascribed to various causes, many of which will undoubtedly be eliminated when the situation is thoroughly understood.

As the result of an extensive experience in the collection, compilation and tabulation of morbidity statistics the United States Public Health Service has concluded that "no health department, whether State or local, can effectively prevent or control disease without knowledge of when, where and under what conditions cases are occurring." In other words it would manifestly be difficult to afford a proper degree of health protection to any community unless the responsible officials were conversant with the types of the prevailing communicable diseases, the locations of the patients suffering from the affections and the peculiar home and general environmental conditions prevailing at the time.

Morbidity registration has more important functions than that of furnishing health authorities with purely statistical information. Primarily, the reporting of sickness makes possible the interposition of a barrier between the sick and the well. This barrier consists principally of the information imparted by placarding, the prevention of contact by isolation, the destruction of infective material by concurrent disinfection and possibly by terminal mechanical cleanliness, in addition to the elimination of carriers by various methods of bacteriological research.

It is usually difficult for the attending physician or members of the family in which sickness is present to institute the measures which will afford protection to the well members of the same family or to the public. The trained health officer,

on the other hand, has the special training and the facilities for meeting the conditions. He is, therefore, the logical person to render assistance though it should be understood that reports of cases must be at hand before appropriate action can be taken.

In certain instances the reporting of sickness permits the application of necessary personal treatment as well as the institution of general control measures. Thus, antitoxin is made available for persons suffering from diphtheria, sanatorium treatment for those afflicted with tuberculosis while vigorous treatment at skilled hands is afforded those with ophthalmia neonatorum. Similarly, arsphenamine is kept at hand for the syphilitic while the trained attendant in the well-appointed clinic stands ready to treat those suffering from gonorrhea. In the line of general precautions may be mentioned the wholesale application of the Schick test. Investigations of water, milk and food supplies when typhoid fever, diphtheria or septic sore throat are prevalent, may be cited as examples of general measures which may be inaugurated as a result of competent morbidity registration.

The efficient reporting of communicable diseases frequently indicates the need for certain sanitary measures. Thus, the continued presence of typhoid fever in a community suggests the need of an improved water supply, a supervised milk supply, the elimination of insanitary privies and an efficient system of garbage collection and disposal. Morbidity registration will also indicate the relative efficiency of existing sanitary measures and works, in addition to suggesting the need for alterations or improvements. In this way not only the health officer but also the administrative officials in the locality are directly benefited.

When reliable morbidity statistics extending over a period of years are available it is possible to acquire valuable information concerning the geographic distribution and varying prevalence of disease, thereby indicating the places in which special precautions and control measures are required. Furthermore, the causes, manner of spread and means of prevention are frequently indicated by an analysis of comprehensive sickness reports. The accumulation of accurate morbidity data has already enabled some health authorities to issue warnings and give suitable advice prior to the advent of an unusual prevalence of certain diseases. More recently it has been suggested that complete morbidity reports may, upon numerous occasions, be the means of preventing epidemics by giving early indications of unusual disease prevalence and thus permitting the employment of prompt and vigorous control measures.

The Statutes of the State of Wisconsin require physicians and other persons having knowledge of the existence of certain specified communicable diseases to report such cases in writing to the local health officers. Though "other persons" are legally required to report, investigation shows that they rarely do, this probably being due to a natural difference in the matter, ignorance of the law or desire and intention to evade the law. Further study discloses the fact that while practically all cases of communicable disease are reported by physicians that even these reports are notably hazy, incomplete and frequently inaccurate. And yet the physician, by reason of his special medical training, his presumed ability to diagnose, his close association with the sick, and particularly by reason of his moral and legal responsibilities, is the person preeminently qualified to submit the desired reports. Inasmuch as the family physician is commonly and quite properly regarded by the public as the barrier between the sick and the well, the failure of some Wisconsin physicians to render case reports must be viewed with some apprehension. Were such omissions devoid of serious consequences criticism would be unjustified, but inasmuch as the health and happiness of the people is vitally concerned the neglect cannot be condoned.

The most reasonable excuse ordinarily advanced for failure to report communicable disease is that the time which elapsed between the first visit to the patient and his death was so short that the death certificate can serve as a case report. When it is understood, however, that the death certificate may not reach the State Board of Health until 10 to 40 days after the patient's demise, it will be seen that the failure to report every case, regardless of the time the physician has been in attendance, imposes an unnecessarily severe handicap upon the central health organization. Fortunately, however, instances such as those just cited are in the minority. Ample time and opportunity for diagnosing and reporting most cases of communicable disease are usually afforded. Therefore, other reasons for failure to register cases, must be sought.

A few practitioners, obtaining a positive laboratory report in a case of tuberculosis, typhoid fever,

diphtheria, syphilis or gonorrhea are inclined to regard this as sufficient notification to the health authorities of the presence of the disease. Such, however, is not the case. When a positive laboratory finding is recorded, a case report should invariably be submitted in the usual manner.

Lack of education of many physicians as to the importance of reporting communicable disease and a misconception as to the uses to which morbidity statistics are put may be charged primarily to the inadequately taught medical school. Later, the responsibility may be shifted to the health authorities and the physicians themselves. The enthusiasm which has marked the efforts to educate the people in public health matters is highly commendable but it sometimes appears that the education of the physician has not kept pace. Therefore, rather than a mere matter of mechanical reporting morbidity registration must come to be regarded not only as a duty but a process contributing to the conservation of human life. Only by having each physician fully conversant with the reasons for disease reporting can the desired results be obtained.

Failure to understand or have knowledge of the existence of the laws governing the reporting of communicable disease is frequently advanced as a reason for not submitting morbidity reports. Inasmuch as the State Board of Health issues frequent bulletins on this and correlated subjects and that new rulings are given wide publicity in the newspapers, this excuse cannot be considered tenable.

In some instances lack of diagnostic skill is apparently responsible for failure to report the presence of communicable disease, the true nature of the affection being determined by death or the spread of the uncontrolled diseases. In order that such calamatous occasions may be prevented opportunities for post-graduate work should be seized and requests made for consultations with experts.

Wisconsin is not without its self-admitted careless or negligent physicians. Under the stress of a busy practice it sometimes happens that the reporting of disease is entirely overlooked, with the correspondingly increased danger to the public health. Were it possible to record sickness as carefully and accurately as births, marriages and deaths the prevalence of certain diseases would be materially decreased. Therefore some means of insuring complete returns from all physicians is especially desirable.

It frequently happens that physicians actually fear to report communicable diseases because their patients are influential citizens and do not desire their homes placarded or otherwise known as places in which disease is present. When this occurs in villages or rural communities the practice of a physician may actually be imperiled unless he accedes to the wishes of the dominating parties. Needless to say the failure to enforce the law impartially is directly responsible for the spread of the communicable diseases, many of which exact their toll in unnecessary sickness and death just as certainly from those high in the financial and social plane as those not so well situated. In this extremity the physician is usually confronted by two alternatives, first, notification with possible personal financial loss, and second, concealment with possible extension of the disease, though maintained financial integrity for the time being. These are matters for the individual physician to decide with his conscience. It should be pointed out, however, that it is not consistently honorable and will inevitably lead to disaster. In many instances it is practicable to shift the responsibility for the action taken to the deputies of the State Board of Health.

The charge that many persons suffering from communicable disease fail to consult physicians is only too true. It is also true that the failure to receive reports of the existence of such affections from the responsible heads of families permits the spread of the diseases. This condition of affairs must be met courageously by local health officers through vigorous prosecution of the offenders and systematic education of the people generally against this pernicious practice. The contention of a few physicians that because a layman violates the law which requires morbidity reports he should likewise be granted the same privilege is manifestly untenable. Summary:

1. Morbidity registration is an important factor in preventing the spread of communicable diseases in Wisconsin.

2. The physician is the logical person, by reason of his special medical training, moral and legal responsibilities, to report communicable diseases.

3. That there are few if any satisfactory reasons for the failure of physicians to report promptly cases of communicable diseases coming to their attention.

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Ontagamie	M. J. Sandhorn, Appleton	G. T. Hegner, Appleton.
Ozankee	C. A. Balkwill, Grafton	W. H. Drissen, Port Washington.
Pierce	W. A. Lumley, Ellsworth	Rollo Cairns, River Falls.
Portage	D. S. Rice, Stevens Point	F. A. Marrs, Stevens Point.
Price-Taylor	G. H. McClure, Westhoro	G. C. Wichman, Rib Lake.
Racine	F. W. Pope, Racine	Susan Jones, Racine.
Richland	R. H. Delap, Richland Center	G. Benson, Richland Center.
Rock	W. A. Munn, Janesville	E. B. Brown, Beloit.
Rusk	W. F. O'Connor, Ladysmith	L. M. Lundmark, Ladysmith.
Sauk	F. D Hulburt, Reedsburg	Roger Cahoon, Barahoo.
Shawano	A. J. Gates, Tigerton	W. H. Cantwell, Shawano.
Sheboygan	Edmund Knauf, Sheboygan	Harry Heiden, Sheboygan.
St. Croix	W. H. Banks, Hudson	O. H. Epley, New Richmond.
Trempealean-Jackson-Buffalo	E. A. MacCornack, Whitehall	C. F. Peterson, Independence.
Vernon	J. K. Schreiner, Westby	F. E. Morley, Viroqua.
Walworth	M. D. Cottingham, Lake Geneva	E. Kinne, Elkhorn.
Washington	H. F. Weber, Newburg	A. H. Heidner, West Bend.
Waukesha	F. W. Aplin, Waukesha	S. B. Ackley, Oconomowoc.
Waupaca	E. W. Jones, Weyauwega	H A. Jefferson, Clintonville.
Winnebago	F. G. Connell, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. C. Hayward, Marshfield	Wm. Hipke, Marshfield.

SOCIETY PROCEEDINGS

FOND DU LAC COUNTY

The regular meeting of the Fond du Lac County Medical Society was held December 10 at the Hotel Irving. The officers elected for 1920 were: Dr. O. M. Layton, president; Dr. F. M. Marshall, vice-president; and Dr. D. N. Walters, secretary. A banquet was served at seven o'clock after which the business session was held.

LANGLADE COUNTY

A meeting of the Langlade County Medical Society held at the Butterfield Hotel, Antigo, December 18, was unanimously declared the most successful and enjoyable meeting in the history of the society. Dinner was served at six-thirty after which a business session and smoker was held, the following officers being elected for the coming year: Dr. L. A. Steffen, president; Dr. E. R. Murphy, vice-president; Dr. J. C. Wright, secretary; and Dr. I. D. Steffen, censor.

WAUKESHA COUNTY

The Waukesha County Medical Society was entertained at the home of Dr. A. J. Hodgson of Waukesha at the annual meeting held December 4, and officers were elected as follows: Dr. F. W. Aplin, Waukesha, president; Dr. G. H. Perrin, Menomonee Falls, vice-president; Dr. S. B. Ackley, Oconomowoc, secretary; and Dr. A. A. Pleyte, Delafield, censor.

ASHLAND-BAYFIELD-IRON COUNTY

A meeting of the Ashland-Bayfield-Iron County Medical Society was held at the Elk Club, Ashland, for the purpose of electing officers and discussing clinical plans for the coming year. The officers elected were: Dr. J. M. Dodd, Ashland, president; Dr. H. Hannum, Bayfield, vice-president; Dr. A. P. Andrus, Ashland, secretary; and Dr. A. O. Shaw, Ashland, censor. It was decided to hold a series of clinics at both the St. Joseph and the Ashland General Hospitals for the benefit of the local doctors of the surrounding county, these clinics to be held once a month.

LA CROSSE COUNTY

At the monthly meeting of the La Crosse County Medical Society held December 4, the following officers were elected for the coming year: Dr. Edward Evans, president; Dr. H. E. Wolf, vice-president; Dr. Jens Rosholt, secretary; and Dr. G. J. Egan, censor.

DANE COUNTY

At the annual meeting and dinner of the Dane County Medical Society, the 1919 officers were re-elected to serve for 1920. Dr. Gilbert Seaman of Milwaukee, University Regent, was the guest of the society and spoke on the subject of "Better Medical Education."

MILWAUKEE COUNTY.

The annual meeting of the Milwaukee County Medical Society was held at the Pfister Hotel, Thursday evening, December 11. The following officers were elected for 1920: Dr. F. C. Studley, president; Dr. C. A. Baer, vice-president; Dr. Daniel Hopkinson, secretary; Dr. A. R. Grob, treasurer; and Dr. A. L. Gray, censor.

GRANT COUNTY

The annual meeting of the Grant County Medical Society was held at Lancaster, December 5. A splendid program by the Wisconsin State Board of Health was given. Dr. Oleson of the Federal Public Health Service addressed the meeting on "Health by Mail," a new system of venereal disease control; Dr. Henika read a paper on "Venereal Disease Control in Wisconsin," and Dr. Stovall spoke on "Bacteriology of Some Acute Infectious Diseases." Officers elected for the coming year were as follows: Dr. C. M. Schuldt, president; Dr. J. M. Lewis, vice-president; Dr. M. B. Glasier, secretary; and Dr. G. C. Buck, censor.

M. B. Glasier, M. D., *Secretary.*

JEFFERSON COUNTY.

The Jefferson County Medical Society held its annual meeting at Jefferson, December 12. Drs. Olson, Stovall and Krueger of the State Laboratory of Hygiene gave very interesting lectures. Dr. Phillip Leicht of Lake Mills was elected president for 1920; Dr. G. E. Eck, Lake Mills, vice-president; and Dr. H. P. Bowen, Johnson Creek, secretary. The county tuberculosis sanatorium was discussed at length by the members and a committee was appointed to confer with and assist the trustees in matters pertaining to the sanatorium.

KENOSHA COUNTY

The annual meeting of the Kenosha County Medical Society was held at the Elk's Club, December 19, for the election of officers, who were elected as follows: Dr. J. F. Hastings, president; Dr. H. M. Ripley, secretary. Dr. F. C. Studley of Milwaukee addressed the society.

RACINE COUNTY.

The annual meeting of the Racine County Medical Society was held December 19, 1919, in the green room of the Elks' temple. Henry F. Miller of the Kenosha State Co-operative Laboratory gave a very interesting lecture on the subject of "Bacteriology." Mr. Miller, in opening his address stated that five state laboratories are being operated in Wisconsin under the supervision of the state board of health, one of which is located in Kenosha. He stated that the purpose of the state in having the laboratories was two fold—diagnostic and preventive. Under the first head experiments and analysis are made in such work as communicable diseases and under the second the analysis of milk and water.

He stated that the work in diphtheria was one of the important ones. He told of tests for typhoid and water examination. He referred to the milk situation in Kenosha when he assumed his duties at the laboratory. The city had 40 milk dealers while at the present time that city has only 10. "Our idea has been, not so much to prosecute," said Mr. Miller, "as to give publicity and advocate pure milk for the consumers." Today the milkmen are following our suggestions without question. Following the lecture Mr. Miller exhibited a number of specimens of bacteria under the microscope.

Dr. G. Windesheim, councilor for the Second District, also Health Commissioner of Kenosha, showed the advantage that would accrue to the physicians of Racine County by establishing a medical laboratory in Racine. The selection of officers for the ensuing year resulted in the following being elected: President, Frank W. Pope; Vice-president, E. A. Taylor; Secretary, Susan Jones; Censor, J. T. Corr; Delegate to state convention, J. S. Keech; Alternate, L. E. Fazen.

The attendance was good.

S. Jones, M. D., *Secretary.*

ASSOCIATION NEWS

RESOLUTION ADOPTED BY THE MILWAUKEE COUNTY MEDICAL SOCIETY.

Dr. George William Fox, a long time member of the Milwaukee County Medical Society, died at his home in Milwaukee on January 8, 1920, of broncho pneumonia.

In the twenty years that Dr. Fox has lived in Milwaukee he has made an honorable name for himself in medicine because of his unswerving, even stubborn fidelity to his convictions and his standards of the principles and ethics of practice.

In his chosen field of surgery he became distinguished as a painstaking, reliable diagnostician, and an unusually skillful deft and successful operator.

As a citizen he gave freely to the community through hospital and disepnsary service; through private charity, through War Board work; through a quick, unquestioning response wherever he was called; and through the example of his forceful, manly personality.

To those who knew him intimately there will ever be the memory of his geniality, his clean sportsmanship, his unselfish, loyal devotion to his family and to his friends.

The members of the Milwaukee County Medical Society *resolve*, therefore, to inscribe upon their records this brief expression of their esteem of George William Fox, and to convey this with a message of deep sympathy to the members of his family.

Arthur T. Holbrook,
Horace M. Brown,
James C. Sargent,
Committee.

NEWS ITEMS AND PERSONALS

The new Milwaukee Maternity and General Hospital was opened for inspection December 21. The building, formerly the old Columbia Hospital, has been completely remodeled at a cost of more than $10,000 and the medical, surgical, and nursing staff has been reorganized. While it is a general hospital, the efforts expended will be largely along the lines of better obstetrics and child welfare with especial stress on prenatal work.

Dr. J. B. MacLaren of Appleton has been appointed as a member of the advisory committee on sanitation of the Wisconsin Industrial Commission.

The Service Star Legion of Edgerton composed of about one hundred mothers are behind a drive to build a city hospital and will raise the funds necessary to give Edgerton a hospital adequate in size and equipment to meet the need of the community.

Dr. N. F. Crowe of Walworth has just recently received his discharge from the service at Camp Taylor, Kentucky, having previously spent several months in the base hospital at Camp Grant after his return from England, where he was engaged in hospital work during the war.

Dr. F. R. Hyslop who recently removed from Delavan to Blair to take up practice has removed to Chicago.

A demonstration clinic was held at the high school of Hudson, two hundred and nine men, women and children being examined. The clinic was held under the auspices of the Wisconsin Anti-Tuberculosis Association and the Northwestern Mutual Life Insurance Company.

Dr. Frank Erdlitz of Marinette has moved to Peshtigo where he will practice his profession.

Dr. P. G. Frey of Washburn has removed to Milwaukee where he expects to take a year or two of post-graduate and research work in the Milwaukee and Chicago hospitals.

Physicians of Watertown have come to the rescue of the city hospital there and are undertaking a canvass of the territory served by the hospital to insure its finances for 1920.

Dr. H. C. Waddle of Brodhead has purchased the practice of Dr. L. E. Creasy of South Wayne and will take up practice there.

Memories of war days were renewed by the personnel of Base Hospital 22 at the Maryland Hotel, Milwaukee, December 27, when 104 former members gathered for the second annual banquet and reunion. The first annual banquet of the unit was held in November, 1918, at Beaux Desert, France, when the personnel was eagerly waiting for orders to sail back to the States.

A move is on foot to buy the St. Joseph Hospital at Rice Lake and erect an $80,000 hospital on the lake front. The Methodist Conference is backing up the plan

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and will furnish part of the required capital, the balance to be raised by local people.

Dr. A. J. Looze, who practiced in Superior before entering the service, has lately been discharged with rank of captain and has taken up practice in Stevens Point.

Captain E. E. Tanner of Milwaukee has returned from Siberia where he was chief surgeon for the American Red Cross at the base hospital in Omsk.

Dr. W. L. Wenzel has moved from Stoughton and opened offices for practice at Beaver Dam.

Asking congress for $85,000,000 to build and equip hospitals to care for war risk insurance patients, Surgeon General Blue of the public health service reported that more than 30,000 beds would be needed by July 1, 1921. No sites for the location of the hospital were proposed, the Surgeon General urging that selections await appropriation of funds to build the institutions. In estimating the hospital facilities to be needed, the surgeon General took into account the treatment of selective service men passed by local boards, but later rejected at camps. Legislation providing for their treatment by the government has passed the house and now awaits senate action. Dr. Blue also recommended that the medical benefits be extended to men who are suffering less than 10 per cent disability from war service.

At the monthly meeting of the board of trustees of the Marquette medical school, it was unanimously decided to adopt, in addition to the regularly prescribed course of study, a year of work as interne in any state hospital which becomes properly affiliated with the school. The satisfactory completion of the fifth year's work will be a prerequisite to the issuance of a diploma. The students are to be given the privilege of selecting the hospital in which they wish to serve their fifth year. In this hospital a responsible member of the staff is to be placed on the extra-mural faculty list of the medical school. He is to act as a supervisor.

Seventy-six inmates of state homes for feeble-minded were operated on under the state sterilization law in the six months ending Aug. 28, 1919, according to official figures. Eighty per cent of those operated on were women. Statistics show that after successful operation 20 per cent of the patients have been paroled by the state board of control to relatives and friends.

So large has been the attendance at a series of demonstration clinics being held in northern Wisconsin by the Wisconsin Anti-Tuberculosis Association, with the cooperation of the Northwestern Mutual Life Insurance Co., that it was necessary to add a second physician to the personnel, Dr. H. W. Kinderman of the State association. The other examining physician is Dr. Lawrence Sykes, assistant medical director of the Northwestern Mutual. This clinic is noteworthy as an experiment of the life insurance company to minimize tuberculosis. "In spite of care taken by companies to prevent insurance of tuberculosis risks, a large number of the deaths of policyholders each year are due to tuberculosis," said Dr. J. W. Fisher, medical director of the company. "We have been impressed with the value of demonstration clinics during the past few months, and with the importance of the discovery through these clinics of many unsuspected cases. For this reason, we decided to extend this service to the smaller cities, free to the community."

John Till, the plaster artist, was under $500 bonds to appear in municipal court Nov. 19, and failed to keep his appointment. Judge C. A. Taylor declared the bond forfeited, and a new warrant was issued for his arrest. Evidently John thought he might escape further legal troubles by forfeiting his bond, but in this he was again disappointed.

A bronze star for every man, woman and child who has completed treatment at Muirdale tuberculosis sanatorium and been discharged as an arrested case will be erected in the main entrance corridor of the sanatorium as a permanent Victory Honor Roll. The list now contains 265 names, an average of over 60 residents of Milwaukee county restored to health each year since the opening of the sanatorium, November, 15, 1915. The idea of this unique Victory Honor Roll originated with Maj. G. L. Bellis, M. D., superintendent and medical director of Muirdale. He plans to make the roll a distinguished service record and believes it will prove an incentive to patients to remain in the sanatorium until honorably discharged instead of leaving against the advice of physicians as soon as they begin to show marked improvement, as is often the case. "The man, woman or child who makes a gallant fight against tuberculosis deserves to be ranked as a soldier," says Maj. Bellis. "In its discipline and in the importance of obeying orders, sanatorium life is much like army life and the person who wins out in the battle certainly deserves recognition for distinguished service."

More than 2,500 cases of venereal disease have been reported to the state board of health since July 1. Reporting of venereal infections was made compulsory by the last legislature under a system by which names are not disclosed, but which gives the state authorities a check on each case until treatment has been completed. The federal government has set aside a fund with which to combat the venereal peril.

Milwaukee County's latest contribution to the war on tuberculosis is the new children's cottage at Muirdale Sanatorium, Wauwatosa. The new building will house 120 patients and any child can be received who shows clinical evidence of tuberculosis. The cottage also provides an isolation ward for control of any contagious disease.

Milwaukee's crusade of education against malnutrition, one of the principal causes of infant mortality, will be made by the Red Cross, cooperating with the city health department. A nutritional clinic will be established and classes will be held in home nursing, cooking and the feeding of children.

The Wisconsin Medical Journal

Volume XVIII MILWAUKEE, FEBRUARY, 1920 Number 9

ORIGINAL ARTICLES

INFECTION OF THE KIDNEY.

BY HUGH CABOT, M. D.,
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BOSTON, MASS.

Mr. Chairman, Members of the Society, I want to call your attention this afternoon to the general subject of infection of the kidney. It is quite extraordinary, I think, how much that subject has been confused, and it almost seems as if there had been a conspiracy to render confusions worse.

One of the gravest difficulties is one which is not peculiar to this condition. That is that our eminent brethren belonging to the pathological department have a curious inability to remember that the patients upon whom they perform have the misfortune to have died. It is common that after death these people will show the lesions which caused the death, and from that has arisen, for instance, the extraordinary dictum which long held sway that tuberculosis of the kidney was habitually bilateral. As a matter of fact, we now know it was almost universally unilateral, but that was forced down the throats of the pathologists by the clinics.

One can see at once how simple the doctrine is. One type of kidney infection, that of the colon bacillus, is more marked in the female than in the male. You can see what follows. Obviously, for anatomical reasons, infection of the bladder in the female is conceivably more possible than in the male, and upon that alone, apparently, was erected the theory of the ascending infection, the view being that the bladder having become infected the organism then ascended to the kidney, all of which is in total disregard of practically all facts.

*Read before the Tri-State District Medical Society, Rockford, Ill., Sept. 1, 1919.

It is well known that it is practically impossible to infect the normal bladder, that no amount of introduction of infectious material into the bladder without injury will produce infection. That is true not only experimentally but clinically. Experimentally, it was shown more than a generation ago that infection of the bladder could not be produced except by injury to the bladder or by the production of artifical retention of the urine. It was then shown, at the same time, that these artifical infections of the bladder having been produced, there was no observable tendency of that infection to proceed upward to the kidney. The business of proceeding upward is far simpler anatomically than physiologically.

Anatomically, we conceive of these organisms as being endowed with legs, something like centipedes, and having obtained a foothold in the bladder they proceed to crawl upward in utter disregard of the descending current of urine which tends to make the ascent difficult. It was then pointed out, that the ascension might take place on the ground, so to speak, that the ascension might take place by direct tracks along—in or beneath—the mucous membrane, and the poor lymphatics were dragged in to help out again in utter disregard of the fact that there is no lymphatic stream which proceeds up the urine. It is common knowledge that lymphatics follow the course of blood vessels, that there are no blood vessels following the course of the urine, that the blood supply and the lymphatic supply of the urine is segmental in character, that these organisms which would proceed in the lymphatics must pass through a series of lymph-nodes and fight their way through.

It was forgotten that in the lower third of the urine the lymphatics drain not upward but downward into the lymphatic glands of the pelvis, so that instead of getting toward their alleged goal of the kidneys, these poor bugs would be going

down into the pelvis to get lost forever in the shuffle.

It was demonstrated more than a generation ago that infections of the bladder having been produced experimentally, the organisms so introduced very promptly found their way into the blood stream, and it was overlooked in the course of this discussion that the blood stream was a very much easier method by which organisms might be conveyed to the kidney than direct extension or the lymphatic current, both of which are seriously handicapped.

It is not my intention to ask you to believe that ascension from bladder to kidney does not occur. It does occur, but only under highly unusually special cases and conditions in which all of us would expect it. We know that in obstruction of a hollow viscus, reversed peristalsis is the rule. In obstruction of the urine at its lower end, whether by stone, tumor or scar, reversed peristalsis has been assumed to occur and has been demonstrated to occur. Under these conditions infections of the bladder with extension by continuity, as does in fact occur to the lower segment of the urine, brings the organisms directly in contact with a stream, a column, of urine in which reversed peristalsis has taken place and infection of the kidney in those cases undoubtedly may occur. I have no reason to doubt that it does in fact occur, but after all, a very small group of cases are found. In people with incontinence of the valvular arrangement at the lower end of the urine, and in cases of urinary obstruction in the lower tract, the ureter has practically become a part of the bladder, the whole muscular contractual structure from the renal pelvis to the urethra having become part and parcel of the same mechanism.

Contractions of the bladder will force urine back and forth by back-wash to the renal pelvis, and under these circumstances, of course, infection of the kidneys follows infection of the bladder as night follows day, but this again, is a small group of cases, and it is one with which we are not importantly concerned.

I want to invite your attention to what I believe does, in fact, occur. What is the natural history of kidney infections? For simplicity's sake, let us take only the normal kidney. Let us not complicate the picture by dragging in the anomalies of the kidney, the horseshoe-kidney, the misplaced kidney, the dilated kidney. They only complicate the picture without essentially helping it.

The infections of the kidney take place through the blood stream. Long ago everybody was entirely willing to admit that infections with staphylococcus and other somewhat similar pus producing organisms were called hemoglobinous, blood-born, in other words. Nobody doubted it.

The rather early and excellent work of Brewer, now almost a century old and which met with immediate assent, states that staphylococcus infections of the kidney were commonly associated with staphylococcus infections elsewhere—boils, carbuncles and the like. It never occurred to anybody that by assenting to that proposition they thereby committed themselves to the general proposition that all infections of the kidney were on substantially the same basis. Now the field has been enormously confused, largely through our fault by failure of the pathologist and the clinician to work in any reasonable contact. They have each shut themselves in and made faces at each other through the door without being willing to discuss the situation, and neither one has ever had any real knowledge of what the other was talking about.

The pathologist has taken the late results of kidney infection and of necessity become entangled in the result of multiple lesions, and he has, as a consequence, described different stages in the same infection as three entirely separate pathological entities.

An analysis which we made in 1888 of suppurative infections of the kidney showed a large group of cases in which you could show three different kinds of infections with different organisms at different periods of time, some of them extending back for more than a generation, and yet the poor pathologist, having no knowledge of the clinical history, was asked to make a diagnosis upon these kidneys, and naturally he picked out the most prominent lesion.

Organisms affecting the kidneys do not, from the mere fact that they reach the kidney, discard all their peculiar properties there. In fact they retain them. The groups of organisms which produce suppuration in other parts of the body, which produce a circumscribed abscess in other parts of the body, will produce a circumscribed abscess in the kidney. The group of organisms which does not produce a circumscribed abscess elsewhere will

not produce a circumscribed abscess in the kidney. The organisms which rapidly tend to destroy tissue will do so in the kidney. You can, in fact, divide the infectious lesions of the kidney very nicely by the properties of the organisms which infect it.

Let us deal first with the group of suppurative organisms which we are but too familiar with, containing the staphylococcus, the streptococcus, biogenous and various bacilli, although the staphylococcus and streptococcus biogenous are the most common. These organisms have always been admitted to reach the kidney through the blood stream, and it saves our arguing the point, so there is no world need of doing so. They produce lesions close to the cortex of the kidney because they early stop in the cortical portion, not passing through the kidney freely, and produce circumscribed areas of suppuration. They have very little tendency to extend broadcast through the kidney, but they have a very marked tendency to form subcortical abscesses to cause perinephritis and perinephritic abscess.

For years we have always been running into cases of very obscure subdiaphragmatic abscess. They are obscure not only in their origin but in their existence. Many of you here will doubtless recall patients whom you have watched for weeks with unexplained fever; finally one morning you find fullness below one costal margin or the other in the back and you find an abscess there containing perhaps a quart or more and which at once you recognize must have been there for weeks and was, in fact, the cause of the ill-defined fever. Those cases were not tied on to the kidneys because the urine, as ordinarily examined, was normal and remained practically normal throughout the course of the disease. There is nothing to attract attention to the kidneys as the source of this lesion, and in many cases the amount of evident damage to the kidney is so small that the pretty rough exploration which one can make of the kidney in the face of the massive abscess does not reveal it to be abnormal. It lies in the wall of the cavity, behind the abscess, and appears grossly normal, and yet it is beyond doubt, in the vast majority of cases if not in all cases, a fact that the subdiaphragmatic abscess is of urinary origin.

The attempt at excretion of these organisms by the kidney having failed, subcortical abscesses having occurred with extension into the fat capsule and through the fat capsule into the perirenal portion, these cases, if seen early, can almost always be demonstrated. This leads me to say what I might have said before in a more general part of the discussion: That all organisms which circulate in the blood are excreted by the kidneys, and many of them may be found in the urine. It has been possible, for instance, for one of my collegues to determine the organism concerned in a pneumonia case more suddenly and far earlier by examination of the urine than by any other method. They occur early with certainty and they are the organisms which are loose in the blood Undoubtedly, in the vast majority of cases the kidney succeeds in excreting these without its undergoing any damage whatever. It is undoubtedly in only the minority of cases that this does not occur. Upon what that susceptibility of the kidney depends I do not pretend to know, but undoubtedly there are people who have put out organisms through the kidney for years without any damage whatever to the kidney.

It follows that this coccus infection of the kidney in its early stages, in other words during the stage when the organism is circulating, will show the organism in the urine. It is short-lived. It may not extend beyond twenty-four hours. It rarely does, in our comparatively small experience, extend beyond two or three or four days. During that time, the evidence of damage to the kidney is of the very slightest. There may be a little blood; there may be a little albumin.

Those organisms which produce circumscribed abscess in the kidney do not produce pus in the urine, and the urine is microscopically normal, abnormal only when treated with special care.

It is perhaps worth while at this point to point out to you the method by which one may get these organisms separated and distinguished. The method was worked out by an associate of mine, E. G. Crabtree. It consists principally in dealing with specimens of urine taken with scrupulous care and then subjected to very high power centrifuge. You will then get in the bottom of your tube a thin scum of pure organism, and you will readily distinguish the accidental contamination from the predominant organism. So far as I know, it is impossible to draw urine from the blood without the incident of contamination, but the number of organisms is small and will never compare importantly with the organisms which

are, in fact, being excreted by the kidney and which, to be regarded as of etiological importance, must be present in large numbers, large numbers being considered only, however, when you subject the urine to prolonged high power treatment through the centrifuge. The ordinary examination of urinary sediment will cast no light on the subject at all. If you deal with the matter in this way, you will be able to select with great certainty organisms which are of etiological importance as against those which are accidental contamination, and you will recognize the large undescribed bacilli which so commonly occur in the urethra as obvious contamination.

The condition just described is the mildest type of the coccus infection of the kidney. The severest type is that most importantly drawn to our attention by Brewer, of New York, as I have already referred to, which is an overwhelming infection of one kidney, somewhat more commonly the right, I think, but the difference is not great. It is a kidney which he described as acute focal necrosis which shows some tendency to present lesions in pyramidal form. Any suppuration of the kidney may tend to take a pure apical type if the infection starts at the apex of the pyramid. Pyramidal lesions of the kidney by no means prove embolic origin. In the worst cases, the infection is overwhelming. It is generally mistaken for an acute abdominal trouble. I do not remember to have seen or heard of a case in which the correct diagnosis was made. They are generally regarded as gastric ulcer and acute appendicitis. The diagnosis is generally made at the operation. The kidney may, within twenty-four hours after the onset, be so damaged that it is literally a pulp and will come out in your hands. The milder cases are comparatively common, the acute cases fortunately rare, but the milder grades, or what is commonly referred to as the staphylococcus kidney, are not so rare.

You may see a kidney the cortex of which is studded with small, yellowish areas, typical abscesses, and often more roughly meshed by the swelling which takes place around these abscesses. It has been the habit to divide this group of cases into acute and subacute, but there is no hard and fast rule, and I know of no more difficult decision in surgery than as to whether or not the kidney of this kind should be removed. My own experience has been that whichever course I took I was sorry for. On several occasions I have not removed these kidneys, only to find the temperature persists, and in a week or ten days or two weeks or even three weeks afterwards I have to go in and remove them under obviously more difficult conditions. These attacks are always accompanied by fever which commonly is the so-called septic type. There is always definite enlargement of the kidney which in the vast majority of cases, is perfectly obvious. It is the only type of infection of the kidney in which you commonly get, within a day or two days after the onset, a definite kidney tumor or which can be palpated and which is tender. Accompanied by fever with a microscopically clear urine, it is almost diagnostic, the final touch being made by the recovery of the organism from the urine. That picture is, of course, occasionally mixed with a mixed infection, but it will retain the dominant qualities of the pus producing organism and the other organisms which contaminate the infections, although producing lesions which confound the pathologist are much less likely to be confusing to the surgeon. The picture throughout is dominantly that of the coccus kidney. Precisely opposed to that is the infection of the kidney with the group of baccilli which for convenient practice we are in the habit of referring to as the colon typhoid group.

There are doctors here who could tell you how many thousands of different kinds of those organisms there are, but they do not even fall into respectable groups, as far as I am concerned, and the isolation of the particular type of colon bacillus involved in these infections is a pretty thankless task, but they are essentially different from the coccus infections, from the suppurative infections, and enormously more complicated. It is, in fact, this colon typhoid group which produces the vast majority of all kidney infections. Unfortunately, the name pyelitis has been pinned on to this group because there is the predominating symptom of the picture, but it is none the less true that they are excretory in their origin, the kidney primarily, the pelvis secondarily.

It is possible to watch this whole picture experimentally, although it is probably not true that the organism behaves in precisely the same way in animals as it does in men, but we have been able to watch a few cases in men, and the picture is of a diffuse low grade infection of the kidney involving chiefly the condition of tumor producing

what pathologists describe as a cloudy swelling, a condition which very rapidly clears up, in many cases, within forty-eight hours, in most cases within a few days.

For some reason quite unknown to me, the organism having passed through the kidney, finds a satisfactory resting place in the mucosa of the kidney pelvis, and the colon bacillus, on the whole, seems to prefer the mucosa of the kidney pelvis to any other portion of the urinary tract. Here they will remain over long periods of time, and, unfortunately, in this position they have introduced complicated factors which have confounded not only the clinician but the pathologist.

The effect of this organism upon the function of the kidney is a very striking one and quite the opposite of that produced by the coccus infection, the reason being clear that the coccus infection involves chiefly the cortical area, not the secreting portion of the kidney, and the coccus infection will affect kidney function only in so far as it destroys kidney tissue.

On the other hand, the colon bacillus produces a diffuse process throughout the secreting portion of the kidney and produces an immediate and very great effect upon the kidney function.

I have seen these patients drop, for instance, from a 40% grade to an immeasurable grade in twenty-four hours after the onset of the disease. Two or three days later, these patients commonly show constitutional symptoms or evidence of retention of products which they should have excreted—the socalled uremic symptom. By that time, the actual function of the kidney has begun to recover, and by the time the constitutional symptoms are at their height, the kidney functions have often returned more than half way to normal.

Unless you are in position to watch these, you will probably be investigating the urine after it has dropped to the bottom and come back a considerable distance, but there is no evidence to show that there is at this time any important permanent damage to the kidney. That is the important fact for us to remember.

The natural history of these cases is sometimes very short and sometimes, we all know, very long. It has seemed to us that if our patient is bound to have a colon bacillus infection of the kidney, we should invite him to have a bad one, because then he will recover, whereas the cases that come on with few symptoms and are discovered only from few symptoms are the most unmanageable. I am inclined to think that the more severe the onset, the more likely it is to go on to complete recovery, probably because of the more satisfactory production of anti-bodies.

You all know the history of an acute attack quieting down to the stage of producing no symptoms and then continuing almost endlessly with a little trace of pus and albumin, coming and going, and with innumerable colon bacilli of the urine which seem to persist as long as the patient persists.

The pathological condition at this stage is one of an infiltration of the renal pelvis with organisms living in the deeper layer and also, of course, close to the surface, but reproducing themselves at a tremendous rate and tending to produce a stiff condition of the renal pelvis. There is the beginning of the vicious serpent which in time will destroy the kidneys. We have seen them at various stages from fifteen to fifty years after their onset, and they will slowly present the picture of an obstructed kidney which is obstructed by the loss of elasticity of the renal pelvis and of the upper portions of the urine and becomes a rigid sac which does not satisfactorily empty its contents.

The only true ascending infection which is concerned in this is the ascension of the infection between the pyramids. It has come down originally through the kidney to the pelvis; it now turns around and ascends through the kidney and destroys a portion of the kidney by choking scar tissue, a slow process which at the end of thirty or forty years may have decreased the kidney substance by perhaps one-half. Occasionally it goes on more rapidly, but as a rule it is a long, slow process. The disease itself is a long, slow process which has not been reached adequately by therapeutics.

There are various interesting questions which come up in that connection. We know that the so-called pyogenes of little girls is an exceedingly common disease. We know that the boys of the same age almost never have the disease and that infections of the kidney in little boys are quite as common with other organisms as with the colon bacillus. We know that these cases are often quite insidious in their onset and are discovered quite accidentally. It is as proper for us to believe that a large number of them are never discovered at

all, that children of inobservant parents may have pyogenes which is never discovered. We further know that pyogenes occurring in first pregnancy is unfortunately common, and I should be indeed glad if anybody could tell me whether or not these are cases of womb diseases or exacerbation of a long existing diabetes which has simply been flared into activity by the dilatation of the pelvis, of the kidney, which habitually occurs in pregnancy, having relation of course, more to the right kidney than to the left, but some degree of dilatation is practically habitually present during pregnancy.

Add to that the fact that the renal function during pregnancy is reduced one-half in practically all women and in a very large number more than one-half. These kidneys are working under a handicap, and the extraordinary thing is not, as I see it, that some of them are infected, but that a very much larger number are not infected. They are overworked and they are handicapped as to their outlet.

There is another group of kidney infections which is much less known but which I think ought to be included here for the sake of completeness. I think it is commonly believed—I was about to say that it is generally believed, which is perhaps not true—that the conditions which we call nephritis, whether acute or chronic, are either due to an infection of the glomerule or to changes of the blood, otherwise that they are primarily infectious or vascular. I think it is further generally believed that these infections are produced by a streptococcus and not by the streptococcus pyogenes which I have already grouped together with the other pus producers. It is pretty clear that the streptococcus hits chiefly the glomerulus, and as you will all know there are certain conditions in which you may predict that there will be found at autopsy acute glomerulonephritis, disregarding that the urine has remained absolutely normal throughout; commonly there is no change in the urine at any stage, and the diagnosis can be made only because you know it will be found by the pathologist and not by any sign given during life.

That constitutes the third group. Whether or not there is any other organism than the streptococcus capable of attacking the glomerulus, I do not know, but the association of acute glomerulonephritis involving the heart ought to be regarded as a separate classification, a separate group of kidney infection. Thus you have three groups of kidney infection, that which involves primarily the glomerulitis streptococcus infection of the kidney, that which produces suppuration in the kidney produced by organisms which produce suppuration elsewhere, chiefly the pus producing cocci, with a few bacilli, and finally the group which produces no suppuration in the kidney itself, but passes lightly over the kidney substance, practically without damage, and comes to rest in the tissues of the renal pelvis.

These, at the time of their acute infectiousness show somewhat different pictures. There is, so far as I know, no way of discovering the presence of acute glomerulonephritis. Some of them may show evidence of kidney lesion, but most of them do not.

The streptococci may be found in the urine during the height of disease, and in that way the presumption is rendered more certain, but the urine, in most of those cases, is substantially normal.

The pus producers in the kidney again produce a lesion of the kidney which produces symptoms, but no signs, in the urine except in the rare case of an abscess situated close to the renal pelvis and rupturing into it. I have seen those cases. Finally, there is the group which produced comparatively slight symptoms in the kidney but overwhelming evidence in the urine. It shows at once in quantities of urine very large quantities of pus, it being the only one of the groups which does this.

From the point of view of treatment, a comprehension of these three groups is really important because in one group, if there is any treatment which should be applied at all, it is pure unmitigated surgery. In the other group, that is the rarest thing in the world, in fact, I believe surgery is never indicated in the early stages. It may be indicated a generation later.

The coccus type of kidney must be treated as any other abscess. If an abscess has formed, whether it be in the kidney or in the subdiaphragmatic space, if it is to be treated at all, if we are to do anything but fast and pray for the patient, we must treat that surgically.

Undoubtedly, there are considerable groups of these cases which run their course undiscovered and uninterfered with by the surgeon and which go on to complete recovery.

In the last five years, we have been very much interested in a group of cases with cocci in the

urine, with limitation of the diaphragm on one side, with leukocytosis and with fever.

We have believed that there could be cases of perinephritis and probably very small perinephritic abscesses. We have refrained from operating because we believed it to be unnecessary, and they have gone on to complete recovery. Of course, in the majority of these cases there is a much larger abscess formation, and the limitation of the diaphragm becomes much more obvious.

In those cases in which the force of the infection is expended upon the kidney chiefly, you get the enlarged, tender kidney with considerable fever, with considerable constitutional symptoms and obviously some remedy is required. That remedy is surgery and nothing else. There is nothing in the power of medicine which will touch these cases in any way, shape or manner. The question in surgery is whether to do a nephrectomy or a nephrotomy, or the occasional partial nephrectomy. This can only be decided after the kidney has been or when the kidney is delivered. I defy anybody to come to a conclusion beforehand, except in the clearly acute cases in which the kidney must have been rapidly destroyed and in which removal of that toxic mass is indicated, but in the other cases one can only use one's judgment. It is my own experience that I have more commonly erred on the side of leaving these kidneys in, only to have to take them out with greater difficulty a week or two later, than to have removed kidneys which upon careful investigation I believe should have been allowed to remain.

There was, perhaps a tendency in the earlier years, when this disease was beginning to be recognized, to advise nephrectomy in all cases. The best advice I can give is when in doubt in regard to the indications for nephrectomy, do it. That is in contradiction to the very sound general proposition: When you do not know what to do, don't do it.

Now the bacillus group of cases, as I have already pointed out, is never in its early stages in the realm of surgery. It is within the realms of medicine. It is undoubtedly true that the group of bugs which split up in the urine with the release of formaldehyd has the power to make the colon bacillus somewhat dyspeptic. I think nobody believes that it really injures his feelings seriously, but after all, he is a stranger in a foreign land who has settled down at what appears to him to be a good locality. If you raise his taxes, he will get out. You don't have to kill him.

It is extraordinary that in this day and age there is altogether too little recognition of the method by which these formaldehyd solutions must be given. For instance it is not a month since I was asked to see a case in consultation by an internist of national reputation, and deserving of that reputation. He asked me to see a lady with acute pyelitis with a temperature of 104 and a half, and he was beginning to get worried, which meant that he was beginning to get bored because it might interfere with his going out of town over Sunday which would be a dreadful calamity. I asked him what he was doing. He said, "Oh, all the regular things; ten grains of hexametodid every four hours and ten grains of citrate of potash at the same time." Now what do you think of that? There was a poor woman paying for this expensive drug. We all know that from the decomposition formaldehyd can take place only in a strongly acid medium; it will not even take place in the normally acid urine. It is known that the urine must be more than normally acid. Fortunately, the colon bacillus will attend to this himself if you will only leave him alone. He likes an acid urine, and that is why he doesn't like formaldehyd. The giving of hexametodid is a dreadful waste, but it is shockingly common. In health the normal individual will behave very differently toward these formaldehyd containing drugs in sickness.

I remember when we first began to study the question of the excretion of formaldehyd, we took all the people working in the laboratory and we started them on ten grains every four hours and we pushed it until they began to have bladder irritation. Some of them had it at thirty grains and some of them did not have it at one hundred. Then it occurred to us that we might investigate the matter. We found that the people who didn't have it at a hundred were not putting it out. The urine was not acid; the drug was not decomposed. We were injecting hexametodid and they were excreting hexametodid with no damage to themselves at all. If we had made those urines acid, (and two drugs would have done it most efficiently and most respectably—boric acid and benzoate of soda) immediately those boys who were taking one hundred grains would have come around and asked us

to stop. It was satisfactorily shown that all that was necessary was to be sure that the urine was thoroughly acid, and by thoroughly acid I mean good, strong acid to litmus paper. Of course, that is an utterly inaccurate test to the chemist who wants to talk about all kinds of interesting questions of acidity, but in practice we worked it out by investigation, and if you get a strong test on litmus paper, you will break up these formaldehyd containing drugs except those carefully combined by the manufacturing chemist with an alkali.

There are a lot of those on the market and they are utterly worthless except to sell.

Again one finds the extraordinary contingency of very wise and competent internists giving this drug three times a day. Everybody knows the drug is excreted in five hours by the normal kidney. At the end of twenty-four hours there is no formaldehyd in the urine; the bug thinks you have quit and begins to grow. He will increase enormously in a period of rest of that kind. You can see the pus increase and diminish in the urine, and it is utterly worthless, assuming that you mean business, to give formaldehyd containing drugs less often than once in four hours.

With lots of patients it does not make much difference what you give them except that you get them well. The formaldehyd containing drug is not given often enough in most cases.

On the other hand, there is a clear group of these cases which are apparently unaffected by the drug and which will go on for several days with a pretty high temperature and without change, and for them I know of no valuable remedy.

During pregnancy, I suspect that we shall be justified in dealing with the kidney through the medium of the catheter and pelvic divide, but that is a ground which is still new and ought not to be roughly trod upon. It has been my experience that within a few days all these people will come around. On the whole, those with the most severe symptoms will, in the long run, do the best. The crux of the matter comes in the attempt to abolish the organism which will persist in the urine, in the vast majority of cases. In that attempt, of course, vaccines have played a large part. The autogenous vaccine should here work well, but the fact of the matter is that it does not.

Several years ago, we followed fifty cases with autogenous vaccine for a year and then checked them up one year later, and the fact of the matter was that no single patient, having colon bacilli at the start, had failed to show colon bacilli at the finish. Fifty per cent of them were alleged to have been benefited as to their symptoms, but Heaven knows they had enough stuff injected into them to be willing to say that their symptoms were better whether in fact they were or not. (Laughter).

I believe that, unless some new method of preparing vaccine is brought forward, it is, at the present time, safe to say that the autogenous vaccine is without benefit upon the colon bacillus infections of the kidney.

More recently, within the last three years, I think, (I am a little shady in my dates because I have been away all of those three years myself) or within a comparatively recent time, it has been shown that even in the comparatively early stages in these cases there is a moderate grade of renal retention, that emptying of the renal pelvis and washing of the renal pelvis shows evidence of having an important effect upon the organisms.

I am not at all prepared to go further, because it seems to me perfectly clear that there is a procedure which may well become meddlesome. It is undoubtedly possible by instrumentation of any organ to do harm. Clearly, here is a condition which only indirectly menaces life. We shall certainly not be justified in taking radical measures or in taking important chances of doing these patients harm. On the other hand, a very considerable number of them go on to ultimate destruction of the kidney, and where the disease is not rare, they may ultimately die of renal insufficiency. We are, therefore, undoubtedly entitled to carry out, with tentative observations on these cases, extreme caution; particularly is that true of pyelitis in pregnancy which commonly occurs about the sixth month and is at its worst during the sixth and seventh months. If, by local treatment of the pelvis and that kidney, we can tide them over that interval, we shall save ourselves, on the whole, a very great number of cases in which pregnancy has to be interfered with or interrupted in the interests of the mother. Every year, I see transferred to my service from the lying-in hospital a group of women who have had fever and pain in the kidneys for periods varying from two to three to five or six weeks. I find them

emaciated, in bad general condition, with pulses running above 100, up to 110 and sometimes 120, and many of them have had to have pregnancy interrupted in order to save their lives. Recovery of the patient and important recovery of the kidney occurs in the great majority of cases, but the destruction of the fetus in those cases always seems a shocking admission of our inability to deal with the kidney in this condition over a comparatively short period of time.

If we can snuff that infection and assist in the return of the tone of the renal pelvis, if we can really affect the organisms living in the region of the renal pelvis by chemical agents, surely we have made a great gain.

The important picture which I want to leave in your minds is that this business of kidney infection is not a complicated business, that it is really simple, that it really forms into groups and that its apparent complications are generally due to lack of care in ascertaining precisely what organism you are dealing with. If you will ascertain from careful investigation early in the disease what the infection organism in that kidney is, you can predict with certainty what the condition in the kidney is and what course it will run.

One word more: A considerable group of cases with the symptoms of so-called pyelitis have not pyelitis at all. I have recently been concerned with all the cases admitted to the Massachusetts General Hospital with a diagnosis of pyelitis. That was correct in exactly one case of four, so the diagnosis is commonly wrong.

Here is a theory which you will run into: If you deal with the catheter specimen containing pus, you will find it sterile. That is due to one of two conditions, either stone or tuberculosis. You can at once exclude the conditions of infection of which I have been talking, and you must then either demonstrate the tubercle bacillus in that urine or a stone in some portion of the upper urinary tract. You will see the late cases with a history going on for years of renal suppuration in which you will not be able to predict with great accuracy the condition of the kidney, but that is due to the lapse of time and to the fact that various factors have been here introduced, but it is, on the whole, very surprising how frequently, in the vast majority of cases, if you deal with the infecting organism as obtained directly from the bladder, you will be able to make a diagnosis of the conditions and a prognosis of that kidney.

If that is more widely done, there will not be the confused view of kidney infection because of which I see every week patients with renal tuberculosis getting hexametodids,—persons with staphylococcus infections of the kidney being treated expectantly with colon bacillus and losing their kidneys. There is no need of that.

THE VALUE OF MILITARY SURGERY IN CIVILIAN PRACTICE.*

BY GEO. W. CRILE, M. D., F. A. C. S.,

Mr. President and Members of the Society:

It is my first and pleasant duty to express my sincere appreciation of the honor you have conferred on me by your invitation to address you today and to share with you certain lessons learned from experience with the Allied Armies in France.

In the service in the field many lessons were learned. Every theory was tested in the crucible of practical application on a vast scale. We were dealing with hundreds of thousands of patients as we deal with hundreds here. Surgery lived years in days. The combined experience of thousands of surgeons was immediately available for comparison and for study by the individual surgeon; by the surgical staffs of hospitals, by the consultants; by the Red Cross Research Society; by the Interallied Conference; all of which were seeking to discard the false—to find and to hold fast to the true. All questions pertaining to the care of the sick or wounded soldier were thus studied in detail and in the mass by the nations at war; and finally in Paris at a conference of those chosen by their respective governments to make up a consensus of opinion, conclusions from this great mass of evidence were scrupulously drawn.

Perhaps the one fundamental lesson that far and away beyond all others became increasingly emphasized during our service with the armies at the front, in the field dressing stations, in the base hospitals, was the fact that there is no basic distinction between the war patient and the civilian patient; between the man exhausted by days and weeks of intensive fighting, of tense waiting, of dirt and wet and hunger and thirst, and the

*Read before the Tri-State District Medical Society, Rockford, Illinois, Sept. 1, 1919.

starved patient exhausted by the pain and ravages of a devouring disease. In war surgery as in civil surgery the prime problems are the same —shock, hemorrhage, infection.

In this paper, therefore, we shall consider methods of dealing with these conditions which have proved effective in the vast war clinic and shall draw certain analogies between the military and the civilian patient.

INFECTION.

The mere fact that man is surrounded, covered and penetrated by an infinite number of bacteria, and yet lives, is a proof that the human body has within itself adequate defense against bacteria. This defense we may be sure was attained through struggle and survival—that is, through biologic adaptation—and is the bulwark of the treatment of infection.

An interesting proof of this biologic adaptation is the fact that the various parts of the body have varying powers of defense against infection, the most efficient defense in general being possessed by those parts most exposed to infection from injury, such as the external soft parts or those which lie in infected areas, such as the intestines.

On the other hand, the inner protected parts—such as bone, especially deeply placed bone, the deep muscles and especially protected organs and tissues, such as the heart, the brain, the spinal cord and the retroperitoneal tissue—have had less opportunity to make a selective struggle, hence in these parts weaker defenses against infection have been evolved. What does the tissue of the foot possess that is not possessed by the mediastinum, or by the femur? What does the peritoneum possess that is not possessed by the dura, what endows the skin and the peritoneum with a better defense against infection? The part whose defense is weakest usually possesses a limited blood supply, as compared with parts whose defense is stronger. There is apparently no other difference as striking nor as marked as the difference in blood supply. We may then infer that a rich blood supply is the key to the defense against infection. The face and scalp, the external parts of the body, the abdomen, have a rich blood supply as compared with the deep lumbar muscles, the bones, the spinal cord, the retroperitoneal tissue. Not only is the normal blood supply less in these poorly defended regions, but the local vaso-motor mechanism is less developed, hence there is less reaction to the invading bacteria. For the most efficient defense there must be not only abundant blood, but normal blood. As Sir Almroth Wright has shown, the blood must not be acidosed, as when blood-pressure is low, for saprophytes flourish in such a medium. The bones, the deep tissue planes, the mediastinum, the spinal cord, the brain, the retroperitoneal space, are all hazardous regions for infection. In the mind of the surgeon the body should be charted like the sea, and he should direct his course according to this chart. One region requires one plan of action, another, such as the scalp or the face, no special plan. Face wounds heal almost equally well with good surgery, with poor surgery, with no surgery. The infected mediastinum heals almost equally badly with no surgery, with poor surgery, with good surgery. A pulseless patient becomes a universal mediastinum. A limb, anemic as from a neglected tourniquet or from the severing of the arterial supply, becomes as helpless as the meninges; the war patient in exhaustion from cold and wet and exposure, from loss of sleep and from fighting, and the starved civilian with cancer of the stomach or with perforating ulcers, alike have a universally weak defense. Patients prostrated by shock or by hemorrhage have low resistance. As a rule, defeated, dejected troops have less resistance than victorious troops. The defense, then, in the normal soldier varies with the several parts of the body, the frontiers of the organism being best defended. The defense, even at the frontiers of the organism, is lowered by interference with the local blood supply, whether of an entire limb, or of the devitalized bloodless tissue along the injured track of the missile. It is weakened by low blood-pressure from shock, with its secondary acidosis; or by hemorrhage; it is weakened when the entire individual is in exhaustion. The defense, in turn, is augmented by rest, by sleep, by fluids, by the revision of wounds; by restoration of the local and general blood supply. Excision of devitalized tissue, rest, a night's sleep, a transfusion of blood, become valuable "antiseptics" and tend to restore and preserve the natural defense.

SHOCK AND HEMORRHAGE.

I have already referred to the Interallied Surgical Conference as a sort of Supreme Court of Surgery. The conclusion of this conference re-

garding shock may be summed up in the following brief dictum: *The best treatment of hemorrhage and shock is rest, warmth, fluids, morphin for pain, and blood transfusion.*

The war elicited no new fact in regard to the treatment of shock and hemorrhage but it confirmed civilian experience as to the prime importance of nitrous oxid-oxygen as the anesthetic of choice, and as to the value of nerve blocking as a preventative.

One of the greatest errors in the treatment of shock is to allow a patient to remain in a state of low blood-pressure in the hope that he will improve through his own resources, reserving a blood transfusion to be used as a last resort after it has become obvious that the patient is going to die. This is the same faulty logic that was once used in dealing with appendicitis. When the indication for operation in appendicitis was supposed to be a clammy, pulseless state, when the patient was dying, surgical treatment became almost discredited. It is equally illogical to wait for impending dissolution in shock before improving the circulation. Treatment should not be deferred until the inaugural state of death is established. There is another method of treating shock which is not generally applicable to war conditions, and that is narcotization with morphin—giving morphin on the same scale as in the Alonzo Clark treatment of peritonitis, i. e., keeping the patient under morphin so completely that the respirations are cut down to about 13 to 15 per minute and the patient is deeply asleep. During this time one should give between 2,000 and 3,000 c. c. normal saline infusion subcutaneously. When properly carried out excellent results may be obtained by this method which, however, should never be employed if there is cyanosis, and never routinely, and always under expert supervision.

THE OPERATION.

The Interallied Surgical Conference adopted as one of its conclusions that in the treatment of wounded soldiers *the anesthetic of choice is nitrous oxidoxygen combined with local anesthesia.* Among the evidence offered in support of this tenet Surgeon-General Sir Anthony Bowlby presented the work of one of the most brilliant British military surgeons, Captain Douglas C. Taylor, and the work of the Chief of the Anesthetic Service of the British Army, Captain Gregory Marshall. The experience of Captain Taylor I am privileged to quote. "Until the summer of 1917 my colleague, Captain G. Marshall, invariably gave ether for my laparotomies for gunshot wounds of the abdomen. No series of 100 consecutive cases showed a recovery rate of much over 50 per cent.

"During the summer and autumn of 1917 I did 101 laparotomies for abdominal wounds, and nearly half of them were given nitrous oxid and oxygen combined with infiltration of the abdominal wall with eucain and novocain. The more serious cases, i. e., those with rapid pulse and low pressure were nearly all done by this method.

"Of this series, 27 died at the Casualty Clearing Station and 74 were evacuated to the Base; of the latter there have been only two deaths, both from secondary hemorrhage—one from the kidney and the other from the rectum and buttock."

That is, by the employment of anociation, Captain Taylor's mortality rate was reduced from approximately 50 per cent to 29 per cent.

Captain Marshall has demonstrated that patients may apparently do well during ether anethesia but do badly afterward, while they do well both during and after nitrous oxid-oxygen anethesia.

The experience of the various resident and detached members of the Lakeside Unit which collectively dealt with over 83,000 medical and surgical patients is also in accord with the foregoing conclusion. It may be noted that in abdominal operations somewhat better results were obtained when before the beginning of the operation sufficient blood was transfused to permit a safe performance of the operation; and again at the completion of the operation an ample amount of blood up to 750 c. c. was given. Furthermore, if a let-down appeared later, the transfusion could be repeated. Meanwhile the advantages of comfort, rest, warmth, morphin and fluids were added.

The advantages of nerve-blocking are further emphasized by Colonel Cabot's communication to me regarding his series of 180 amputations of the thigh, one-half under ether, one-half under spinal anethesia with a reduction of mortality by the use of spinal anethesia of 50 per cent; while Captain Taylor by the use of nitrous oxid-oxygen and local anesthesia reduced his mortality rate for thigh amputations more than 200 per cent.

It would seem that these conclusions of the

Interallied Surgical Conference regarding the technic which would deal most successfully with infection, shock and hemorrhage in exhausted soldiers in whom bullets or shell fragments had ploughed their way through septic material into the hollow viscera should provide even greater protection to the civilian patient in whom avenues into the viscera are opened under the utmost aseptic precautions.

THE GOOD SURGEON.

The surgeons and the pathologists who for four years have intensively studied war wounds, have formulated many theories of treatment—many apparently contradictory theories. Thus there have been presented the claims of the value of various chemical agents against those of no chemical agent; of moist dressings against dry; of heat against cold; of frequent dressings against infrequent, and of no dressings against both; of sunlight and of electric light against occlusion; of immersion against hot air; of bacteriological control against clinical judgment; of vaccines, toxins and foreign proteins against normal reaction; of wound inoculation with harmless organisms against wound sterilization; of isotonic against hypertonic solutions; paste has competed with paste; bip with ip; sap with both; and chromic pastes with all.

Does not this intensive study of infection in war wounds for this comparatively short period equal and recapitulate the more leisurely study of infection during the thirty years since Lister first proposed the carbolic spray? And is there not slowly emerging from the present conflict of opinions the same fact as that which emerged from the post-Listerian period—that the one agent of successful surgery, whether war surgery or civil surgery,—is the *good surgeon?*

In civil surgery here in America, by what agency was mastery achieved over appendicitis, over cholecystitis, over tubal infection, over adenitis? What agent has contributed the most to the success of resection of the intestines and of the stomach; of gastroenterostomy; of treatment of suppurating stone in the kidney; of the treatment of infection of subcutaneous tissue? What agencies have achieved survival? One and but one—*the sound surgeon,* who always creates opportunity. Is it possible that in these four intense years of war surgery, in which more experience in traumatic surgery has been accumulated than during the past 30 years, we have traveled around the same circle as in civil surgery and have again found the same *surgeon?*

By sound surgery we mean the assumption of complete inclusive responsibility for every item that enters into the result; the consideration of the patient as well as the wound; the development of an ability to read the wound as well as the man aright. Sound surgery means quick, innocuous, timely intervention; it means seeing clearly the tomorrow of the wound; it means no intervention unless there is to be a net gain; it means a sharp knife, a good anesthetic, a painless innocuous dressing; it means as much respect for the tissues of the anesthetized man as those of the unanesthetized man; it means a training in judgment that unerringly tells when to cut, how far to cut, when to quit cutting. It plays all the defenses and reparative forces of the patient. Good surgery is the exponent of no single method. It recognizes the anatomical and environmental situations in which chemical and physical agencies are useful. Good surgery exploits physiologic rest and fluids and sleep; it gives little pain. Good surgery evokes confidence; and confidence begets restoration. Good surgery, then, makes use of antiseptics and physical forces, just as it uses incisions, counter-drainage, revisions, skin-grafting, blood transfusion. Good surgery does not substitute an easy formula for its principles; above all, it always is dissatisfied with its work and always is open to suggestion.

What could the good surgeon accomplish with the wounds of war, with good opportunity but no antiseptics? Without antiseptics he could close by primary union a higher percentage of contaminated wounds than with antiseptics; he was able to remove damaged tissue with such accuracy that the natural defenses of the revised wound became its best antiseptic; he closed penetrated knee joints more securely without than with antiseptics; he closed penetrated skulls without, better than with antiseptics; he cleared up foul and infected superfical wounds as well without as with antiseptics; he met gas gangrene with timely use of the knife as well without as with chemical agents. He closed healthy superfical wounds with early suture tied lightly; healthy wounds that could not be closed by suture he closed by skin grafting, both as a healing and as a bacteriocidal policy; he closed fecal and urinary fistulas without antiseptics.

On the other hand, he realized equally that in compound fractures with or without bone infection, in deep, recessed wounds, in pyocyaneus infection in many other types of wound that antiseptics might have great advantages, and he used them and used them well. In certain phases of a wound, he would use Carrel-Dakin; in another acetic acid; in another, hot pack; in another, incision—a physiologic incision today to avoid the tissue tension of tomorrow; in another transfusion; in another, sunlight or electric light; in another, continuous alcohol to make a scar covering.

In the rush of a great battle, he incised for drainage, and in addition he made "physiologic incisions" to avoid the tension that is sure to follow the next day from the inevitable infection.

But in quiet times, he dissected out every atom of devitalized tissue. He read accurately not only the wound, but the patient; not only the patient but the military situation; not only the military situation, but the condition of the infecting soil, the state of transport, his surgical assistance, and the type of nursing care—that is, he weighed accurately his chances for success. Therefore, the army medical service and the wounded man pinned their hope and their faith first, last, and always to the one agency of wound treatment that in civilian surgery emerged clearly from the confusion of the Listerian period; emerged clearly from the confusion of the four years of military surgery—*the sane, sound surgeon.*

SUMMARY.

The experience of this war has demonstrated (1) that spinal anesthesia, nerve blocking, or local anesthesia, each minimizes or prevents shock; (2) that nitrous oxid-oxygen minimizes and prevents shock to almost the same degree; (3) that when the patient's condition is poor or if the operation is to be extensive and long, it is imperative to use nitrous oxid-oxygen anethesia with or without local or regional anesthesia. If nitrous oxid-oxygen is not available, then, in amputations of the thigh in particular, low spinal anesthesia according to the method of Cabot is the choice; (4) that when shock has been established the most efficient treatment consists in the employment of rest, sleep, heat, large quantities of fluid, blood-transfusion, morphin.

The treatment of infections may be summarized as follows:

1. Before the stage of granulation and new tissue formation, revision of the wound—cutting away all devitalized tissue, removing all foreign bodies, especially clothing, providing free and dependent drainage.

2. Following the above, if the circumstances warrant, immediate or secondary closure as may be indicated.

3. No primary wound closure can be made if the patient is in a state of shock or exhaustion.

4. When the stage of granulation has been reached, free incisions, to relieve tension and to prevent the spread of infection; hot packs; and physiologic rest.

5. In recent wounds and under circumstances in which drainage cannot be established, the Carrel-Dakin method is the method of choice.

6. In wounds near the surface not showing much recessing, dichloramin-T does very well.

7. When it is necessary to keep the wound free from the increased infection that might occur as a result of the transportation of a wounded man whose wound had been thoroughly revised from the Front to the Base Hospital, then 1 to 1,000 sol. of flavine would be the method of choice; the second choice is dry gauze and no antiseptic.

8. Infections are treated by raising the local blood supply and local resistance as well as by raising the general resistance of the patient. The importance of the latter is frequently forgotten.

The increased resistance of the patient in the chronic forms of infection is accomplished by adopting as far as possible the dietetic and hygienic treatment for tuberculosis, and by giving transfusions of blood at intervals. The transfusion of blood is the most potent method of increasing the circulation, improving the blood and raising the resistance. The Harvard Unit under Colonel Cabot used this method extensively.

Infected wounds often times show a marked improvement immediately following a transfusion of blood. As a therapeutic agent transfusion may be repeated a number of times.

The results secured by applications of these principles may in turn be briefly summarized as follows:

The Head—It has been surprising in this war to find how well the brain resists infections in strong, able-bodied soldiers. In these cases the wounds do best on the whole by being thoroughly

revised, thoroughly cleansed and closed immediately, even though there may be some bacteria in the wound.

Wounds involving the mouth do very well under treatment with dichloramin-T sprayed through an atomizer.

Contaminated wounds involving the trachea and the deeper planes of the neck are best treated by laying them wide open and packing with iodoform gauze.

The Chest—The most serious wounds of the chest are the "sucking wounds". The chest wound should be closed tightly and even when operating for empyema following a penetrating wound of the chest, the wound should be closed even though but temporarily so as to obviate any danger from the air.

The Carrel-Dakin method is excellent in the treatment of infections within the thorax.

If there is cyanosis, and this is very common, then the inhalation of oxygen under pressure supplied by gas oxygen apparatus for a period of from five to eight minutes immensely improves the internal respiration and raises the vitality of the patient in advance of the operation.

The work of Gask and Robinson for the British Army and of Yates for the American Army has shown very conclusively that the chest may safely be opened and portions of the lung resected with good results.

Yates has shown conclusively the advantages of positive pressure applied by the gas-oxygen apparatus. He has also demonstrated the fact that the chances for recovery are increased if the lung is put to rest by mere blocking.

Wounds involving the chest and the abdomen usually show high mortality. Many examples of herniation of the intestines into the thorax were found. The diaphragm is more easily accessible through the chest, as a rule, than through the abdomen. Operations above the diaphragm were well borne. Operations upon the heart were not common, but some successful cases were noted.

The Abdomen—Penetrating wounds of the abdomen should receive early and prompt attention by an experienced surgeon. The best results thus far reported are those of Captain Taylor which we have already quoted.

Where indications of peritonitis are present, put the patient in the Fowler position and employ hot packs and large doses of morphin, practically utilizing the Alonzo Clark method, and administer from 2000 to 4000 c.c. of water subcutaneously every 24 hours.

The high resistance of the peritoneum in wounded soldiers was a constant surprise. As a rule after penetrating wounds of the abdomen the more common complications were pneumonia, bronchopneumonia, and retroperitoneal infections, rather than peritonitis. In military surgery, as in civilian surgery of the abdomen, the best results followed ample incisions. It made very little difference whether incisions were transverse or vertical. The mortality rate of operations on the large intestines was higher than that of the stomach or the small intestines. Penetrating wounds of the liver are best left untreated; wounds of the spleen are best treated by splenectomy; of the kidney, if extensive, by nephrectomy. Penetrating wounds of the bladder are best treated by a free exposure and immediate suture.

The Extremities—The Knee Joint. It was a matter of great surprise to find how well the knee joint resisted contamination. This, it must be confessed, was in all probability due to the high grade resistance of the patient, rather than to any new form of treatment. It was found that antiseptics not only did no good, but were harmful when applied within the knee joint. Aseptic operation—cleaning out the knee-joint, getting rid of all foreign bodies and devitalized tissue, followed by complete closure of the joint—gave the best results.

Penetrating wounds of the joints when the bone was not shattered, at least not extensively shattered, did best without operation.

Pyogenic infection of the knee joint other than from hemolytic streptococcus, in the early stages very often was cleared up by being thoroughly washed out and then closed again.

Streptococcus infection of the joint demanded amputation as a rule.

Bad infection of the joint coupled with compound fracture of the tibia or the condyles of the femur usually demanded immediate amputation. Many lives were lost by ultra-conservatism in this direction. The treatment of compound fractures and of fractures generally, made perhaps greater advance than any other field of surgery in the war, largely as a result of the use of the Thomas and the Hodgins splints and the abolition of

coaptation splints and compressing bandages, but most of all these advances were due to the massive experience, although our own army was not in the fight long enough to give our surgeons an opportunity to be compared with that of the British and French surgeons.

One of the finest achievements that came to my attention during the war was the treatment of fractures of the femur in No. 8 Red Cross Hospital, B. E. F. where 1,700 cases of compound fracture of the femur were discharged with an average shortening of but a fraction of a centimeter. In most cases even the anterior bowing of the femur was restored. In this hospital out of the total number of fractured femurs, only nine per cent were amputated and the mortality rate was below eight per cent. These cases were all infected, arriving at the hospital on the average of about one day after injury. These results were obtained by no dogmatic rules but by good surgery, horse sense and strict attention to the patients. They used no antiseptics except an occasional Carrel. They gave over 200 transfusions of blood for hemorrhage or shock or anemia. Gas and oxygen was the anesthetic. They placed great stress on hygiene, dietetics and the comfort and well being of the individual.

The treatment by Wilms of acutely suppurating joints by free opening, attaching the capsule to the skin, inaugurating at once and continuing day and night active or passive movements, even walking, had unexpected merit. So far as the author can see, the benefits of this radical departure were due to the evacuation of the pus preventing pooling and pocketing.

The great war found the medical department of the army better prepared than any other. This was due to the foresight of Surgeon-General Gorgas and the generous co-operation of the American Red Cross in organizing and equipping 50 base hospitals as a matter of preparedness. The medical service was the first to actively enter the war.

In turn perhaps the most valuable lessons of the war are being taken back to civilian life by the medical department. Much has been learned as to sanitation; as to acute wound infections; as to anaesthetics; as to surgery of the chest and abdomen; as to the treatment of fractures; as to nerve suturing; as to plastic surgery; as to the relation between the organism of man and the destructive forces that surround him. Moreover the war has taught us a better spirit of co-operation and a higher sense of duty to our country.

TUBERCULOSIS WITH PREGNANCY.*

C. HENRY DAVIS, M. D.,

MILWAUKEE.

Tuberculosis and pregnancy are the two most dangerous conditions to which women of childbearing age are commonly exposed. Tuberculosis with pregnancy is a very fatal combination.

On the basis of the mortality report of the United States, it is estimated that in 1915, 43,666 women aged 15 to 45 died from tuberculosis and 15,103 from childbirth. It may be assumed that a small percentage of the women who died from childbirth had tuberculosis, and, that pregnancy or childbirth was a contributory cause of death in many cases recorded as due to tuberculosis.

Tuberculous pregnant women are found in every community. Most of them are cared for by physisians in general practice and not in institutions where they may be carefully observed and the end results reported for the information and guidance of the medical profession. Bacon has estimated that between 24,000 and 36,000 tuberculous women are confined in the United States each year. He believes from the meager statistics available, it may be estimated that about 33 per cent of the tuberculous women who become pregnant will have died within a year after delivery. But today few reports are available and the treatment of tuberculosis with pregnancy or vice versa is based largely on impressions from small series of cases reported.

INCIDENCE OF TUBERCULOSIS AMONG PREGNANT WOMEN.

Pregnancy is undoubtedly responsible for the active symptoms of tuberculosis in many women exposed to its demands. Trembley of Saranac in a series of 250 cases studied had 151, or 63 per cent who said the tuberculosis originated or at least was first discovered *after the birth of a child.* Turban of Schanta's clinic reports that 29 per cent of the tuberculous women, observed by him, gave a positive history of the disease originating or becoming definitely recognizable *during pregnancy or the*

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*Read before the Milwaukee Medical Society, November, 1919.

puerperium. Fishberg states that of 286 tuberculous married women under his care, 107 or 37.4 per cent claimed they had no pulmonary symptoms until *after one or more childbirths.* In a series of 337 cases studied by P. Jacob and Pannwitz 25 per cent *traced the origin or aggravation of the disease to pregnancy.* Marogliano in studying 385 cases found 226 or 59 per cent who believed the tuberculosis had *started in pregnancy.* Scarborough found that of 200 married women admitted to the Iowa State Sanatorium, 94 or 47 per cent stated the active symptoms *appeared after childbirth.* Douglass and Harris found that of 300 women, with a history of pregnancy, admitted to the Ohio State Sanatorium 88 or 29 per cent gave definite evidence that pregnancy was the leading factor to which the onset of tuberculosis might be attributed and in 24 additional cases or 8 per cent it was a presumptive factor, making a total of 37 per cent of these cases in whom pregnancy was a contributing cause of tuberculosis.

INCIDENCE OF PREGNANCY AMONG TUBERCULOUS WOMEN.

Tuberculosis other than pelvic rarely if ever results in sterility. The diet of the tuberculous patient tends to increase sexual desire and between 24,000 and 36,000 tuberculous women are pregnant every year. Bacon believes that between 1 per cent and 1.5 per cent of all pregnant women in the United States have tuberculosis to such a degree it can be detected if a thorough examination is made.

EFFECT OF TUBERCULOSIS ON PREGNANCY.

Tuberculosis is rarely given as the cause of a spontaneous abortion. Most writers on the subject agree that the effects of tuberculosis on the course of pregnancy is practically nil. Nevertheless it is reasonable to believe that the tuberculous woman may suffer to a greater extent from the various disorders of pregnancy than will a more healthy woman, and that in some severe cases of tuberculosis an abortion may result.

EFFECT OF PREGNANCY ON TUBERCULOSIS.

In cases of known tuberculosis there may be an increase of gastric symptoms during the first trimester. During the second trimester, due to the increased metabolism, many of these patients appear to have a definite improvement, and some continue to term without evidence of decline. On the other hand, during the last trimester many of these women lose strength with an alarming rapidity and may die at any stage of labor or the puerperium. The greatest danger is during labor and the puerperium when sudden death may occur at any time from cardiac failure, pulmonary hemorrhage, or pulmonary edema. Most of the cases with advanced tuberculosis will have died within a month after delivery.

Statistics indicate that tuberculosis is usually aggravated by pregnancy. Lobenstine states that 38 per cent of the tuberculous patients at the New York Lying-in Hospital were seriously affected by parturition. Of 100 cases studied, 19 were dead of tuberculosis when he made the report and all but two had died within a month after delivery. Diebel believes that 64 per cent of tuberculous women are badly influenced by pregnancy; v. Rosthorn, 70 per cent; v. Bardeleben, wrote that from the communications of fourteen physicians, 71 per cent of tuberculous women grow worse from parturition and that 47 per cent of the active cases proved fatal. Norris and Landis report that in their experience about 20 per cent of mild, quiescent tuberculosis, and 70 per cent of the more advanced cases exhibit exacerbations during pregnancy and the puerperium. McSweeny and Wang reported eighteen deliveries at the Sea View Hospital. In their summary the authors state that during pregnancy ten (55.5%) seemed to retrograde, five (27.7%) to improve, and three (16.6%) were apparently unchanged. After labor, of the moderately advanced cases, seven were improved, of the far advanced cases five (45.5%) died, one (9%) improved, and five (45.5%) retrograded.

Experience and statistics demonstrate that pregnancy is a most serious complication of tuberculosis regardless of the treatment. However at present available statistics are based on small numbers of cases and may be misleading. Present treatment is as a rule inadequate and unsatisfactory. Few physicians are informed regarding the end results in the cases which have been under their care.

SUGGESTIONS FOR THIS PROBLEM.

In any attempt to attack the problem of tuberculosis and pregnancy, the women must be divided into two classes. 1st. Women who are known to be tuberculous before they become pregnant and 2nd, those who are found to be tuberculous during a pregnancy. Obviously most may be accomplished by educating the first group of women.

Tuberculosis is a contraindication to marriage only secondary in importance to gonorrhoea and syphilis. Similar rules should apply. Women with a history of tuberculosis should not marry until some years after all evidence of active signs have subsided. Before marriage these women should be instructed regarding the danger of a recurrence during pregnancy. They should be made to appreciate, (if such is possible), the importance of receiving the maximum of rest, fresh air, good food, and expert medical supervision during the entire period of pregnancy, labor and the puerperium, and for many months thereafter.

The married woman who develops tuberculosis should have instruction regarding the ordinary mechanical means of avoiding conception. It is useless to advocate long continued abstinence. Should she in spite of advice become pregnant, sanatorium care is to be recommended as few women will secure the needed rest, fresh air and proper diet at home. The attempt should be made to bring her through the pregnancy with the minimum of danger. A healthy child may usually be expected, but it should be removed from the mother at birth. Nursing is rarely if ever advisable in these cases for it greatly lessens the prognosis for the mother, and exposes the child to a practically certain contact infection.

The plight of the second class of women is more sad since they did not approach marriage and pregnancy with any knowledge of a tuberculous complication. Overwork and unhygienic conditions combined with the strain of pregnancy is responsible for the active tuberculosis in many of these women. Latent foci never suspected or long inactive flare up and may run a violent course. These women need sanatorium care. The tuberculosis is usually discovered too late for even a consideration of therapeutic abortion.

MANAGEMENT OF PREGNANCY.

The treatment of pregnancy complicating tuberculosis may be divided for discussion into active and passive. Many physicians believe that if a woman with tuberculosis is seen during the first three months of her pregnancy, a therapeutic abortion is advisable. They are impressed with the high mortality of these women subsequent to their deliveries and the fact that such a high percentage of children born to tuberculous mothers develop tuberculosis early in life. The termination of pregnancy subsequent to the first trimester has been discontinued owing to the high mortality.

Within recent years, some physicians have questioned the advisability of emptying the uterus even during the first three months. Experience has shown that many of the women so treated have a rapidly fatal course. The shock of the anesthetic and abortion may do as much harm as that of labor. There is no certain method of determining which patients may be benefited, which harmed. Bacon finds that the collected results of therapeutic abortions are not favorable and does not consider it justifiable in over 10 per cent of tuberculous pregnant women. Veit reports that there was no improvement following abortion in 43 per cent of the cases collected by him. Trembley, who at Saranac Lake with patients under most favorable conditions has perhaps aborted more women because of tuberculosis than any other physician in the United States, has not seen enough improvement to warrant the establishment of a general rule. v. Bardeleben states that 50 per cent of his cases died after the pregnancy had been terminated by abortion.

As a means of determining which patients should be aborted, if seen in early pregnancy, John Ritter advises that the woman be put to bed and kept at rest under the treatment used for active cases in a sanatorium. If with this treatment the temperature comes down he would carry her through the pregnancy even though she might have to remain in bed during the entire period. For the woman whose temperature continues under this management the prognosis is bad and she is apt to die before term. For her the therapeutic abortion offers the only chance of improvement. She will probably die within the year regardless of treatment.

NEED OF CO-OPERATION.

The 30,000 or more tuberculosis women who will become pregnant in the United States this year are scattered from Maine to California. They will be treated and confined by thousands of different physicians. The present data on the end results of the different methods of treating these cases is too small to be of much value. This data can be obtained by the co-operation of the thousands of physicians who see the patients.

A committee has been appointed by the Milwaukee Medical Society to make a statistical investigation of *Tuberculosis and Pregnancy*. This investi-

gation will be very valuable to the medical profession and the unfortunate women who are thus afflicted, if every physician having such a case will co-operate with the committee. The following blank has been prepared for guidance in reporting such cases. Additional blanks may be obtained by addressing: The Secretary, Milwaukee Medical Society, Milwaukee, Wisconsin.

PHYSICIAN'S REPORT.

Statistical Study of Tuberculosis with Pregnancy.

Milwaukee Medical Society, Milwaukee, Wis.

Patient's initials..... Age.....M. S. W. Yrs.....

Tuberculosis Diagnosed:

Before marriage—yes..... How long..... Date.....

no

Before pregnancy—how long..... Date.....

During pregnancy—period of..... Date.....

After pregnancy—how long..... Date.....

No. of healthy children.....

No. of tuberculous children.....

No. of pregnancies.....Date of last pregnancy.....

No. of pregnancies after diagnosis of T. B.....

Type of tuberculosis.....

Tubercle bacilli found

yes..... date..... Numbers.....

no, diagnosis based on.....

Patient treated at

home, how long.....

hospital, how long.....

sanatorium, how long.....

Management of pregnancy after diagnosis of tuberculosis.....

Condition during pregnancy.....

Patient aborted, date.....19.....

Spontaneous, complete .....

incomplete .....

Therapeutic, method of.....

Criminal, complete .....

incomplete .....

How long pregnant.....

Effect of abortion on course of tuberculosis.....

Patient delivered, at term.....date .....

premature .....date .....

normal .....

forceps, high.....mid..... low.....version

breech .....eesarean section.....

labor induced .....spontaneous .....

Anesthetic agent, ether.....chloroform .....

nitrous oxid-oxygen..... drugs.....

Complications .....Puerperium .....

Effect of labor on tuberculosis.....

.....

.....

Condition of child at birth.....

Subsequent evidence of T. B.

yes..... date..... no.....

Did mother nurse child—yes.....wet nurse.....

no

months artificial .....

Patient discharged as arrested, date..... 19.....

Patient discharged as improved, date..... 19.....

Patient last heard of, date..... 19.....

Condition .....

Child,

Healthy

T. B.

Sick

Died

Patient died, date.....

Cause of death.....

Was pregnancy or childbirth recorded as a contributory cause of death—

Yes

No

Remarks: .....

.....

.....

.....

.....

.....

.....

Date of report.....19.....

Signed.....M. D.

.....Street

.....City

.....State

Return to Dr. Oscar Lotz, Wisconsin Anti-Tuberculosis Association, 558 Jefferson Street, Milwaukee, Wis.

CONSERVATION OF VISION.*

GUSTAVUS I. HOGUE, M. D., F. A. C. S.,
CHAIRMAN COMMITTEE ON PREVENTION OF BLINDNESS, WISCONSIN ASSOCIATION FOR THE BLIND.
MILWAUKEE.

I have recently returned from the battle-front in France and have seen many eyes that were destroyed and injured by shell and shot and gas, but more eyes are damaged in this peaceful land of ours, every day, either from neglect or ignorance in the care of the eyes, than the whole number of eyes destroyed and injured during the entire period of the war.

The Conservation of Vision is most important, and it is the duty of every teacher to see that no pupil, especially in the primary grades, is laboring under any eye strain—particularly in cases of Myopia.

The Greek youth—in the days of Greece's supremacy—spent his early years in the gymnasium and in out-door exercises, and it was not until the boy reached the age of eleven, that any serious mental efforts were begun. Thus creating a healthy body for a healthy mind.

Contrast this with our children of the present day; entering the kindergarten and the public schools at the tender years of four and six.

No eye strain should be imposed on the child until after the age of eight, and only then after a careful examination by a competent oculist.

The age at which a child should attend school, depends a great deal upon the eyes. Beginning with one-half day schooling at the age of seven to eight and increasing gradually to a full day at the age of ten; unless the pupil has weak eyes, then there should be very little schooling until the age of twelve. If this program is carried out it will eliminate many cases of nervous, irritable and half schooled men and women.

What shall it profit the pupil to have a fund of knowledge but with impaired health and injured eyes, on graduation? No education should be obtained at the expense of the health.

Visual defects among the school children of the country at large, are given at 30%. Milwaukee records show 27.24% of visual defects among its school children.

Our local reports show that 15% of the eyes were defective at the age of 14, of those who sought employment.

Of twenty-two million school children in the United States, it is estimated that six million suffer from ocular trouble. These latter become mentally deficient and morally vicious and finally end in asylums or prisons. Education is the greatest enemy of crime; hence all should receive proper education. Fortunately most of the ocular defects can be remedied by proper lenses.

In New York City, with its six hundred and fifty thousand public school children, it was found that 30% of the children were in arrears by two years in grades, and that 90% of these cases were due to eye, ear, nose and throat defects. The eye defects in order of frequency, being as follows:

Myopia,
Hypermytropia,
Astigmatism,
Muscular weakness,
Sore eyes,
Iritis,
Ulcers,
Cataract,
Cross eyes,
Tear duct disease.

If the above defects are neglected, the following results are obtained: nervousness, neglect of work, discouragement, truancy, and school abandonment. Thousands of men and women owe thanks to school eye-tests. The tests should be done annually at the beginning of each Fall session. Each eye should be tested separately, for frequently one eye is defective and the other eye normal, and it will not give you a correct estimate if both eyes are left exposed.

An accurate history should be kept of the child's vision, and the parents should be informed, and urged to have the child examined by a competent oculist if there is any suspicion of eye trouble. This will give better results for the teacher, and also less trouble.

The eye is a dark chamber with a series of convex refracting surfaces and certain intra-ocular media or watery substances. The sense of sight consists of three visual perceptions or sub-senses; that is, light sense, color sense and form sense. The light rays pass thru the Cornea, Aquaeous humor, Crystalline lens and Vitreous body and

*Read before the Public and Parochial school teachers of Milwaukee, Wisconsin, at the Public Library Auditorium, December, 1919.

reaches the Retinal nerves, which in turn transmits this impression, via the Optic Nerve (800 fibres) to the visual centers in the brain, which—with no uncertainty—determines form, color, motion, quantity and space.

The child is born with the eyes Hypermetropic; that is, with the eye approximately 22 M.M. or rather less than an inch in length; while the normal distance in the adult is 25 M.M. If the latter dimension is present, the rays of light will all focus exactly on the Retina, and we then have Emmetropia present. But let the eyes be less than this and the rays of light will focus back of the Retina, which gives us the condition of Hypermetropia; and if greater than this, as in Myopia—or near-sightedness—the rays of light will focus in front of the Retina.

Symptoms of defective vision are noted in Myopia, in that the child cannot see in the distance, but sees well in the near, if the book is held close to the face. And unless it is great in amount it will not manifest itself in the Hypermetrope.

I wish to impress upon you as strongly as I can, that the ocular accommodation of a child is so wonderful that in case of Hypermetropia—or far-sightedness—that the child frequently is able to read the normal print at the usual distance, or 20/20, even though the child has but 20/200—and this fact vitiates the test card for the teacher as a thorough test of exact vision. However, it is useful in cases of Myopia or near-sightedness, but less so for Astigmatism, (irregularity of the curvature of the Cornea or Lens, or both.) I wish to enter an earnest plea for the seemingly perfect vision of the Hypermetrope or far-sighted pupil, who should have the benefit of the Mydriatic and Shadow Tests, in examination for his actual vision and correction. And even in Astigmatism the child is able, by pressure of the lids on the eye ball to close the aperature between the lids and to overcome the error in part.

Astigmatism, as I said before, is due to the irregularity of the curvature of the Cornea or Lens, and is not due to disease, as is frequently thought. I am reminded of the story of a teacher who sent a letter to the father of a boy, with the warning that the boy had Astigmatism and could not return to school until this had been corrected. The boy returned the next day with a letter from his father, which read as follows: "I have given 'George' a good beating, and if he gives you any more trouble please let me know."

I wish to call your attention to the fact that no eye examination is complete unless the external ocular muscles are thoroughly examined as regards their balance—for the twelve muscles (six on either eye) must work in harmony or ill results will follow. The examination and correction of refractive errors is poorly done in 75% of all patients, for it is not sufficient to use the trial lenses, but to employ every method known to science to ascertain the error of refraction, and no examination is complete without a retinoscopy examination or shadow test. The fitting of lenses is the most exacting therapeutic remedy in the realm of medicine, and one of the greatest boons to humanity was the introduction of lenses.

The use of mydriatics for the dilation of the eye, in examination, is sometimes employed in selected cases—in order to overcome the accommodation and put the eye at absolute rest. During my twenty-one years of medical practice, I have never seen any ill results from the proper administration of mydriatics.

It is best to use spectacles instead of eye glasses in cases of astigmatism, because the proper axis is maintained with the former, and the best results are obtained.

I am opposed to the use of colored lenses for the near or reading.

It is most encouraging to read the report of the 1919 Session of the Minnesota State Legislature, which passed a bill providing for the establishment of classes for the Conservation of Vision, by appropriating the sum of $200.00 per annum for each pupil requiring the special benefit of such classes. One class has been started in Minneapolis.

The Minnesota Public Health Association Journal states that 50% of the physical defects found by school nurses in the children of Redwood County, have been corrected.

The following statistics will be of interest: Defects of the Eye in 1918, 26%; in 1919 (or during the enforcement of the law), 7½%.

In Cincinnati, Ohio, sixty-two children are enrolled in the Conservation of Vision class, whose members are bordering on blindness. Class rooms are selected for their favorable light. The desks are movable so that they may be adjusted to get the best light at different times of the day, and

the text books are printed larger than normal. Some of the children become so improved in vision that they are able to return to their regular classes at the end of the year.

The eyes are responsible for 50% of all headaches. Much of the backwardness of children in school may be traced to ocular defects. As teachers you should direct the life work of each pupil according to the amount of vision present, for it is ridiculous to allow any pupil with a gross eye defect to be imbued with the idea of becoming a Lawyer, an Electrical Engineer, or to follow any vocation that requires a long strain upon the eye.

I have made many good farmers of prospective poor book-keepers by sending them to the University of Wisconsin Agricultural School.

Eye strain may be caused by defective eyes, by the use of improper glasses; by bad illumination; or by a combination of all of these.

Eye strain consists of strain of the eye muscles —either those outside of the eye ball that move it around its socket, or those inside, ciliary muscles, of the eye ball that help the eye to focus clearly. Internal eye strain is due to the eye being of the wrong shape; (a) usually a misfortune of birth; (b) result of abuse of the eye; (c) due to natural changes in later life, which I will speak of later.

Eye strain is manifested by the following:

1. Pain in the eyes.
2. Heavy demands on nervous system, affecting other organs in the body.
3. Headache.
4. Indigestion.
5. Vomiting.
6. Nervousness.
7. General fatigue.

Even some cases of suicide have been directly traced to the nervous depression and suffering induced by eye strain.

The causes of eye strain may be unavoidable, but the majority are avoidable. The latter include heredity and malformations of the eye ball. The former; inelasticity of the lens due to age, beginning about the age of 40.

Remember that the eyes are a part of the body machine and that they suffer, especially when the body is at low ebb; for example during an illness. Poor ventilation affects the eyes; therefore attend to this important adjunct.

Every moment of visual activity is costing vital energy. If we were to use any other part of our body one-half as much as we do the eyes, during the sixteen hours of our waking day, we would become physical wrecks.

More people are wearing lenses today than at any time in the history of the world, because we are deviating more and more from nature. Our forefathers never worked over small, close figures under strong artificial illumination for hours, days and even years. They knew nothing of the constant strain of moving picture shows, or the swiftly moving panorama and dust from the modern automobile and express train. As civilization advances the strain on the eye increases.

Focusing for the near is artificial. The savage looks into the distance, therefore he has no ocular trouble. Myopia, or nearsightedness is artificial, for (as I told you before) all babies are born hyperopic, and this Myopia increases with the increase in length of the eye ball, and it may go on to the actual rupture of the eye ball.

Normal eyes are comparatively rare, and only about ten in every one hundred have perfect eyes.

Your eyes are the most delicate organs of your body as well as the most important to you from the standpoint of earning a living and having the full enjoyment of life.

Eyesight is a priceless possession, and yet we neglect and even abuse our eyes.

The wise owner of an automobile sees to it that the engine and all parts of the machine are inspected every year. How few people take the same amount of care when it comes to their eyes!

It is the best sort of insurance to have your eyes examined by a competent oculist every two years. Not only for a change of lenses, but to note if there is any oncoming disease; for example, frequently the earliest sign of Bright's Disease can be seen within the eye.

Parents sometimes foolishly and wickedly object to their children wearing glasses. Some people decline to wear them on the ground that they are unbecoming. You must overcome this prejudice.

When lenses are necessary they should be prescribed by an oculist who not only understands the physical and pathological condition of the eye, but of the whole body. Be careful to whom you confide your valuable asset—vision; and don't patronize the department stores and the five and ten cent stores, where a hurried examination is

made. The wrong lenses will do more harm than none at all.

I wish here to differentiate between Oculist, Optician and Optometrist. The two latter are the same except in name, and are not Medical Graduates—although they sometimes call themselves Doctors or Doctors of Optometry. An Oculist, however, is a graduate of a Medical School and devotes his entire time and efforts to the examination and treatment of the eyes, and understands the intimate relationship between the eye and the body as a whole.

Despite popular opinion, it is by no means unusual for one to wear a weak lens for a while and then be able to lay it aside without any discomfort whatever.

Fifty years ago spectacles were worn only by the aged, to aid their vision in the near, or for reading. Today it has been found that many physical discomforts may be traced to the eyesight, and relieved by the wearing of proper lenses.

Avoid reading while recumbent in bed, or while riding in a street car. Wearing figured or dotted veils is injurious to the eyes. If you must wear a veil, wear a thin one of large uniform mesh.

It is a daily occurrence to relieve headaches by the means of proper lenses. Nearly one-half of all the headaches can be traced to the eyes as a starting point.

Old sight (so-called) or Presbyopia, begins at about the age of forty, and prevents far-sighted people from focusing in the near. When you hear of a person who has lived to be a hundred years old, and who has never worn glasses and is still able to read, you may put it down that that person was a Myope, or near-sighted person, in his younger years.

Twelve inches should be the minimum and twenty inches the maximum distance from the book to the eye. The illumination should come over the left shoulder, or to the left and above the head. If the light is bright it should be covered or an eye shade worn.

The books used in school should be small so that they may be handled easily, and the type should be no less than ten point (large primer) : the type should be at least 1/10 of an inch apart, and not more than sixty letters to the line—and the line should not exceed four and a half inches. These precautions are taken so as not to fatigue the muscles, by undue rotation of the eye ball.

Paper that is highly glazed acts as a mirror and should not be used. Good paper, ink and printing are important items.

The child should sit upright and a little forward, and the desk as well as the chair should be adjustable. The book or paper should be so placed that the top and the bottom of the page are equal distances from the eye, and this—you can readily understand—cannot be obtained when the book is lying flat upon the table or desk.

Desks must not face windows. Blackboards should be free from gloss. Figures on same should be at least two inches high. Copying from blackboards is to be avoided as much as possible.

See to it that the light in the school room is sufficient, but not in excess. The window space should be as one to five of the floor space, and shades should be supplied for sunny days. The seating arrangement should be such that the light falls on the desks from the back and left of the pupils. The blackboard space should be free from windows, and this applies also to the wall on the right side.

The shades should be of a neutral tint—grey; grey-green or straw yellow. The walls should be in the same tints as the shades, and should be non-reflecting. Thousands of eyes are annually injured by glaring or insufficient light. Daylight is the ideal light.

Exposure to too bright a light causes retinal exhaustion. By a beautiful arrangement, the iris of the eye regulates the amount of light admitted into the eye. It is a mistake to have a bright light shine directly into the eyes. If the light is diffused it causes a relatively faint shadow. The North light is diffused and is the nearest approach to a universal standard of light and shade.

Even in normal eyes muscular and nervous exhaustion results where the eyes are used constantly, and this is increased by over or under lighting. Over-lighting brings about exhaustion from retinal exhaustion and pupilary spasm. Under-lighting causes strain due to sharp focusing and constant attention, and makes for nervousness and destroys the pleasure of study.

Day light is positively the best light, and with a good North light we obtain the best diffusion of light with the minimum shadow, and is least trying to the eyes with a minimum of fatigue.

See that the artificial lighting is properly shaded, so that it does not impinge directly on

the eyes. It is well to have the electric lamp frosted at the lower portion. The globes for the light should be either light yellow or green in color, to soften the light. The shades should be of a translucent material—preferably green porcelain. Bare electric lamps should *not* be tolerated. Wall brackets are no good for reading, and this applies also to central chandeliers.

Indirect lighting is the ideal method. The Tungsten and Mazda lights give three times the light for the same amount of current, therefore, care should be taken in diffusing the light, owing to the brightness of it.

The light on the desk should be placed on the left side for reading, and it is best to sit with the back toward the light or table.

Squint or crossed eyes can be cured without an operation in almost every case where the child comes for treatment before the age of six. Do not accept for one minute such advice as "The child will outgrow this condition." Not only is it unsightly, but worst of all, the sight gradually disappears—due to disuse in the eye which turns inward or outward.

An ounce of prevention is worth more than a pound of cure when the eyes are infected, and the child should not be allowed to remain in school for its own sake, as well as for the sake of the rest of the pupils.

Trachoma is a dangerous and contagious eye disease, which primarily affects the lids, and which leads to blindness if not treated energetically. The infected towel is the usual carrier of this disease. Individual towels should be supplied in every school.

Wood alcohol has, in a number of cases, caused blindness and even death. The fumes of wood alcohol are also dangerous. Use denatured alcohol instead as it is safer and cheaper.

In almost every shop or factory there is some man who is bold enough to remove or rather pry out pieces of emery and steel. This person is not an eye specialist and has not looked inside of a medical book. This act is a criminal one, for we see infection frequently, and even blindness in some cases, which have followed this rough and unclean method of removing foreign bodies from the eyes.

We are living in an age of conservation, and are striving to conserve time, strength and even life itself. Why not conserve the most priceless of all our possessions—EYESIGHT?

"MOUTH INFECTION AS A SOURCE OF SYSTEMIC DISEASES."*

BY M. N. FEDERSPIEL, D. D. S., M. D., F. A. C. S., MILWAUKEE.

The study of the relationship between ill-health and defective teeth is, by no means, recent. It has received casual mention in the older literature and has been recognized for a long time by some practitioners of medicine and dentistry. The subject has, however, not received the prominence it deserves although a good many practitioners have been giving this matter a thorough study and now do not complete case histories unless they have a detailed report on the pathological conditions that exist in and adjacent to the teeth.

The development of this knowledge marks a great practical advance in the diagnosis and treatment of disease. It is now apparent that many disorders which heretofore were considered obscure in origin and incurable are due wholly or in part to chronic infection and that such diseases can often be cured, or at least the progress of the disease retarded by the removal of the primary source of infection.

Chronic sepsis is far more frequent than was formerly supposed. It is now conceded by imminent specialists that few of mature age are wholly free from it. Among individuals examined by Dr. Arthur Black, without reference to complaint, the percentage of peridental infections was 56 persons under 25 years of age, 72 for those between the ages of 25 and 30, 87 for those between 30 and 40, 89 for those between 40 and 50, and 100 per cent for individuals over 50 years of age. There is, of course, some variation in statistics reported by different observers. This is due in part to the class and age of the patients examined and in part to slight differences on the basis upon which the diagnosis of sepsis is made.

It is now generally agreed, however, that dental sepsis is one of the most common of the chronic active infections and for this reason ranks theoretically as a very frequent cause of ill-health.

Duke reports that oral sepsis as a focus of chronic active infection may be a source of ill-health in many different ways. It may harbor and distribute organisms which, under certain conditions, may infect other tissues and give rise to acute or chronic inflammatory lesions. It may have

*Read before the Milwaukee Surgical Society, Nov. 3, 1919.

a toxic effect with ensuing disease in both normal and diseased organs. This effect in healthy individuals may perhaps be slight; it may be decidedly harmful, however, in individuals who are depleted by disease.

It may also cause functional disturbance in relatively normal organs by furnishing an aline protein to which an individual may have become highly sensitized. In the same way it may increase functional disturbances due primarily to organic disease. Finally it may cause local pain, referred pain, and headache.

The immediate therapeutic result which follows the eradication of oral sepsis varies and the more conservative often hesitate to promise too much. Frequently the result is excellent. On the other hand it is often disappointing. It is likely to be disappointing if the removal has been incomplete, or if other co-existing infections have been left intact, also if extreme anatomic changes have been brought about as a result of chronic systemic infection. The best results are obtained in those instances where the systemic effects are chiefly toxic. In these cases a brilliant result often can be secured within a short time.

It is unfortunate that the profession, both in medicine and in dentistry, has not studied the true pathological conditions in and adjacent to the teeth. The mere suggestion of the report of a single case wherein there was the slightest manifestation of a cure through some form of dental care, started a wave of one or the other forms of treatment throughout the entire country, if not, the dental world. Let me illustrate what I mean. You all remember when some members of the profession who had achieved some reputation as practitioners reported that they were able to cure pyorrhea by the injection of emetine. They went so far as to say that they had obtained cures. This so-called cure for the relief of loose, sore teeth became the subject of debate and discussion in our medical and dental journals. Newspapers reported this wonderful miracle. Drug houses, seeing the opening for a good harvest, sent out agents and employees over this entire country, preaching the wonderful cure that could be obtained in the treatment of pyorrhea by adopting emetine as a treatment.

My observation and study of the *pathological condition* involving the teeth and adjacent structures *satisfied* me that emetine could not bring about the results claimed for it. Today one rarely hears this drug mentioned. It has taken its place side by side with other fads so numerous in the history of medicine. If dental pathology is once mastered, it is only then one can draw certain conclusions in working out a diagnosis. Without a genuine knowledge of the dental tissues, their pathology, and their relation to systemic diseases, both physician and dentist are more liable to err in making a diagnosis and differential diagnosis which will oft times cause patients to be mutilated and maltreated.

Unfortunately there seems to be a tendency for some practitioners to urge patients who are suffering from rheumatic pains to have teeth extracted without determining the possibilities of eradicating infection without removing these organs of mastication. Such advice is contrary to the laws that govern scientific diagnosis. Especially is this true of rheumatism, for Dr. Cabot says "Rheumatism has sometimes turned out, in my experience, to mean aortic aneurism, cancer of the pleura, tabes dorsalis, osteo-myelitis, bone tuberculosis, syphilitic periostitis, lead poisoning, morphine habit, alcoholical neuritis, and gonorrheal infection. Rheumatism is one of the most doubtful of all diagnoses."

These words should prove that all modern aids to diagnosis should be used if one is to safely rely upon his diagnosis.

During the last five years we have tabulated 1,000 cases suffering from miscellaneous systemic complaints, and find that 18% were benefited by the complete eradication of all chronic infections involving the teeth and adjacent structures. Eighty-two per cent were not benefited, and it is up to the diagnostician to find out what the contributory factors were that brought on the systemic conditions. Yet, after all, I am satisfied that these 82% who had the oral sepsis removed were benefited in having a clean mouth, and were not liable to suffer from any complications which may arise therefrom.

Time does not permit me to take up this work as I would like to, for volumes have been written and rewritten on this subject covering the subject from the stand point of etiology, diagnosis, treatment and prognosis.

There seems to be a diversified opinion among men as to how teeth should be removed. Some

practitioners advocate the complete removal of all teeth that are pulpless.

Talbot, in his research on bone absorption around the roots of teeth, reports that dental X-ray pictures do not show the pathology necessary for the guidance in the treatment of interstitial gingivitis, pyorrhea, alveolaris, or apical alveolar changes. He finds that there are a number of stages in pathological evolution from the normal healthy tissue to the fully formed abscess, in which the X-ray does not, and cannot, by the present method discriminate.

To treat diseased teeth successfully, and the alveola tissues, we must in some way be able to distinguish the finer changes which occur in the evolution of a fully developed abscess. Each stage requires different treatment, and the knowledge of each stage is necessary in deciding whether a tooth can be saved or should be removed.

Talbot further claims that X-ray pictures, as produced today, are far from what they should be. He recognizes the removal of pulpless teeth when all other sources of infection have been executed. He has arrested arthritis deformities, cured head aches, indigestion, boils, skin eruptions, and large glands of the neck by removing pulpless teeth. They did not show defects in the X-ray. I am getting to be more and more inclined to agree with Talbot, and yet we have, in our experience, found that pulpless teeth, especially single rooted ones, when treated, and the canal correctly filled, the results were as good as when we would have extracted the teeth. To rely on the X-ray as a guidance in determining whether teeth should, or should not be extracted is problematical. We believe that unless one can grasp the full significance of dental pathology, and be able to differentiate between the various pathological phases that take place in and about the teeth one is at sea and is more liable to err in working out a diagnosis.

The great trouble with the dental profession is that the teaching of pathology in our dental schools has to be modernized. Unfortunately we find that a large number of dental schools devote too much time to preserving the visible portion of the teeth, and in making restorations which look well and serve well for the purpose of mastication.

Fillings, crowns and bridges have not been, and still are not at the present, constructed with a paramount purpose of avoiding sepsis, and have often been attached to teeth so badly infected that the patient was worse off after dental care. This condition still seems to prevail in a large number of our dental schools. If dentists are to be turned out in the future as they have been in the past, I sometimes shudder when I think of the great suffering there will be caused. I mention this for the reason that I have always hoped that the dental profession would take upon itself to better the standard of dental training. So far little progress has been made. The medical profession may yet find it necessary to incorporate the teachings of scientific dentistry, or, I might better say, stomatology in its curriculum.

Dentistry in the past has been directed towards the preservation of the teeth for the purpose of mechanical restoration and cosmetic effect, and must in the future be destined for the cure and prevention of disease, combined with cosmetic and functional purposes. In order to impress upon you the result obtained by removal of septic conditions as found in the mouth, I wish to report to you the findings of a few of our cases:

Mr. C. J. B.; age 36 years, occupation, salesman; weight, 150 pounds, normal weight 220 pounds; complaint, rheumatism. Two years ago he began to suffer from rheumatic pains, and was in bed for six weeks. He was treated by his local physician, and relief came after two months. He had lost 70 pounds in weight. There was a recurrence of his trouble about six weeks before he came to us. He was unable to walk without the aid of crutches, and he found it very difficult and painful. His physician could not find any contributory factor, and, therefore, advised that his teeth should be examined. Examination of his mouth showed that he had a well formed jaw, a full set of teeth, no gingivitis or pericementitis. There was a gold shell crown on each upper lateral. These crowns had been put on when he was extended considerably under the gingiva. By palpitation over the gum margin, a cheesey like thick secretion would ooze. The X-ray examination of his teeth showed nothing abnormal. The crowns were removed, and with the aid of the high-frequency we tested the teeth for vital pulps. All responded except the two upper laterals. We diagnosed the two laterals to have dead pulps. The canals were opened up and found to be markedly

putrescent. The operation had thus far tired him to the extent that he was unwilling to have anything further done. We recommended the extraction of the two lateral teeth, and he was referred to the hospital so that better care could be given him. This was done. About 24 hours after the two teeth were removed he developed a marked reaction. His temperature went up, and the pains in his joints were excruciating. He was put under the care of a local internist, and by keeping him in bed and giving the usual care his pains began to subside the third day. The fourth day his temperature was normal. He left the hospital after being there ten days, and could walk without the aid of crutches. He has since gained in weight, and has had no recurrence of his so-called rheumatism. This interesting case supports Dr. Talbot's contention. The X-ray was of very little help in determining the cause of his trouble. Knowing that gold crowns endanger the vitality of the pulps, and usually bring on pericementitis, we promptly removed them, and then made the further tests.

Mrs. Anna C.—age 44 years; occupation, nurse; 30 pounds under weight; complaint, severe headaches and stomach trouble. This condition had prevailed for three years. The appendix and tonsils had been removed, as it was thought that they might be the cause of her trouble. Heart, lungs and kidneys were normal. Patient very nervous. During the last six months she had been taking osteopathic treatments, which she claimed gave some relief to her head. In examining her mouth we found that it was unclean, the mucous-membrane congested, and a marked deposition of tartar. There was an ill fitting upper right bridge, each holding poorly fitted gold shell crowns. The diagnosis was septic teeth plus a suppurative gingivitis. The tartar from her teeth was carefully scaled. The gum margins treated, swabbing it with Dakin solution—the teeth brushed and polished—the bridge removed, dead teeth extracted, and the sockets carefully curretted. We saw her nine times. The pains in her head had disappeared and her stomach disturbances had been considerably improved. She was advised to report at the office if she should have any further trouble. So far we have not heard from her.

Edward J. M.—Age 35 years, occupation, motorman; weight, 150 pounds. Complaint, general nervousness. At times he feared driving the car. This would be so grave that he was ready to give up his work. He had pains in his body at times, especially in his back, and he found it difficult to arise after bending. There was a dull aching pain around his teeth continually, severe headaches, and for a time had had pain in the left wrist. He was referred for dental care by the company's physician. Examination of his mouth as to cleanliness was poor. The mucous membrane had a dull purple like color—would bleed whenever he would bite into anything like an apple or a crust of bread. Upon palpation over the gum margin considerable pus would ooze out, and with a fine explorer we found deep pockets lying under the gum margin. He had extensive bridge work in the upper and lower teeth. There was a marked deposition of tartar on the lingual surfaces of the lower teeth. The teeth were quite loose. An X-ray examination showed that there was considerable bone destruction around the teeth; nothing wrong at the apical ends. A diagnosis showed suppurative pericementitis. We recommended the complete removal of all teeth, cleansing out all the sockets, and then restoring the organs of mastication with artificial dentures. To this the patient consented. The teeth were removed a few days later, and after the gums had fully healed artificial teeth were fitted. He has since regained his health and considerable in weight.

Mr. H. P.—Age 59; occupation, farmer; weight, 200 pounds; complaint, extreme pain in his right knee. This condition prevailed for the past 9 months with increasing intensity, causing the patient to be unable to walk without the aid of a crutch during the last three weeks. The pain was more severe during the night while lying down. Physical examination proved nothing abnormal. This was reported by his physician. Upon examination of his teeth we found that the patient was suffering from a marked gingivo pericementitis. Upon pressure on gum tissue with the index finger, one could notice a marked discharge of pus. X-ray examination of his teeth showed nothing abnormal. Diagnosis; acute arthritis; contributing factor, suppurative gingivo pericementitis. Patient was given curettments, and rigid prophylaxis, and the pockets swabbed with Dakin solution. All dental plaques were removed and the teeth polished. At first there was marked increase of pain in the knee, but this gradually disappeared, and after about ten treatments the patient was

free from all pain, and discharged, as cured.

Mr. S. W.—Age 31 years; occupation, salesman; weight, 148 pounds; complaint, severe headaches radiating down the back of his neck, which was more severe at night. Examination of his teeth showed that his mouth was well taken care of, teeth looked clean and there was no evidences of gingivitis. The X-ray examination found the teeth to be normal except there was a morbid condition at the root end of the upper left central. The root canals were well filled, and held a gold filling at the mesial surfaces. Diagnosis, apical ostitis. The tooth was removed, and upon placing a current in the socket, I removed a chronic inflammatory mass usually called a granuloma. The wound was swabbed with iodine, and a few days later he reported that the head aches had disappeared.

One of the most interesting cases I ever treated was the mother of a very prominent physician, and I will give you the history of this case as they gave it to me. The patient was 65 years of age, a housewife; past history negative; had given birth to four children, all normal. She had always been in good health. In March of 1914 the patient was sick with Grippe. She ran a temperature for weeks, and had acute pain in temples and forehead. There seemed to be a great pressure in the palate bone and nose; eyelids were swollen. In April an eye specialist was consulted, and glasses were fitted. In May she consulted him again, when a diagnosis was made of sinuses trouble. She was operated on, remained at the hospital one week and returned home. She stayed in bed for two weeks, loss of appetite, and very restless. In June a further examination of her nose was made, and a large polypi was removed from the right nostril, but her condition was gradually getting worse. By this time she developed a gastritis, a great pain in her right arm. On July 22nd she went to a sanitarium and diagnosis was made of nephritis. She was given the usual care. In September she was very miserable. Her complexion was a greenish yellow; she lost weight, and still complained of the pressure in her head, and in the region of the palate bone, and extreme nervousness. During the month of October she was confined to her bed and given opiates to give relief. She then was referred to me for examination of her mouth. She wore an upper poorly fitting rubber denture. The lower posterior teeth were missing. The six anterior teeth were slightly loose with marked pockets following the long axes of the roots. Considerable tartar was found attached to the teeth, and lying under the gum margin. The upper gum tissue was very spongy and flabby. Diagnosis, suppurative osteo pericementitis, complicated by an abnormal occlusion and faulty articulation. The teeth were removed, the diseased area thoroughly curretted and given the usual care. The patient was advised to discontinue wearing the upper plate. Up to this time the patient had lost 33 pounds in weight. After she was given dental care she was sent home a few days later, and a week following I received a letter from her telling that her condition was beginning to improve. One month after the operation I received another letter in which she wrote that she was well and was ready to have artificial teeth constructed. This was done six weeks later, and the patient has fully regained her health.

I could go on and on citing many, many cases wherein the abnormalities of the mouth were the contributing factors that brought on systemic disturbances. Time prevents me from doing so.

In the examination of the mouth in order to determine whether there is any contributing causes that might bring on complaint, it is well to observe the following:

1. Careful inspection of the teeth, the number missing, the number of dead teeth, the occlusion and the forces of mastication.

2. Inspection of the mucous membrane of the entire oral cavity. The mechanical construction of artificial teeth, such as crowns, bridges and fillings; the contour of the fillings, and to ascertain whether there are any overhanging margins which will permit the accumulation of particles of food and other foreign substances.

3. Exploring the attachment of the soft tissue at the gingiva to ascertain whether there are any pockets; the tartar that may be found around the teeth, and upon palpation whether there is any pus oozing from the gum margin.

4. The testing of the teeth with electrical current to ascertain the vitality of pulps.

5. A complete X-ray examination of the teeth.

These five simple rules should be of great help to diagnosticians to help them work out a better and more complete diagnosis.

ETIOLOGY OF AND PROPHYLACTIC INOCULATION IN INFLUENZA.*

BY E. C. ROSENOW, M. D.,

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When influenza appeared last autumn, it became apparent to everyone that the infection was more severe than the more common types of infection which have been considered as influenza. The intense cyanosis, dyspnea, the extreme prostration and marked lenkopenia are clinical signs so pronounced that all of us, I am sure, have vivid recollections of them. The tendency to acute hemorrhagic edema, with bloody expectoration, the great tendency to massive involvement of the lung, and the huge size of the lung as found by pathologists after death, constitute a picture which distinguishes this epidemic from the ordinary.

Just as the clinical picture was peculiar, so the bacteriological findings in these cases were found to be peculiar. The sputum during life from the very onset of the disease contained unusually large numbers of green-producing streptococci which differed from the normal streptococcus viridans flora that individuals normally harbor. The colonies were larger, more moist, and produced more green on blood-agar plates than the ordinary streptococcus viridans. The influenza bacillus was found present in the beginning of the epidemic in considerable numbers, and in some instances in large numbers, but was rarely found later.

The findings in cases of acute deaths were also peculiar. The blood during life usually was found to be sterile by ordinary blood culture methods. The blood after death was often found sterile and the number of micro-organisms in the lung exudate compared with pneumo-cocci in lobar pneumonia was relatively small.

It was thought that injections of sputum directly or other material from the secretions of cases of influenza might throw considerable light on the etiological agent; moreover, it might be possible in this way to determine which one of a series of organisms more or less constantly present was the virulent one, and which would tend to cause death in animals. This was done, and it was found that animals often died within twenty-four or forty-eight hours from intraperitoneal injections of a very small amount of sputum. Death was associated nearly always with a form of green-producing streptococcus or pneumococcus. When pneumococci are injected intraperitoneally in animals, they die from pneumococcemia. The blood contains numerous micro-organisms. In these cases the animal died with peritonitis, not usually serofibrinous, more often hemorrhagic, and the number of micro-organisms in the animals' blood after death was relatively small as compared with the number following injection of pneumococci. It was found, moreover, that they tended to produce hemorrhage, edema of the lung, and bronchopneumonia, following intraperitoneal injection.

I wish to show you a few of these peculiarities and some of the results of prophylactic inoculation with a mixed vaccine by means of lantern slides. (Here Dr. Rosenow showed a series of lantern slides and pointed out the peculiarities previously referred to, and tables indicating results from vaccinations.)

The incidence of influenza was about one-third as great, and the incidence and death from pneumonia about one-fifth as great as among the uninoculated. The mortality in pregnant women among the vaccinated was 10% as compared with 20% among the unvaccinated.

As a result of our study of the sputum and exudates after death, we can say that in influenza there is present a green-producing streptococcus which appears to bear specific relationship. The monovalent serum developed in the horse has the power of agglutinating practically all of the strains. Single agglutinable cultures absorb the specific agglutinins from this serum for practically all of the strains. By means of a vaccine containing type pneumococci a high percentage of the freshly isolated strains, having this peculiar relationship together with pneumococci of group IV, hemolytic streptococci, and staphylococci, it appears possible to rob influenza of some of its terrors.

I regret to say that we shall be unable to supply the vaccine for influenza and pneumonia this year. The demand already is large and would no doubt grow to proportions which would make it quite impossible for us to supply the vaccine in the event that influenza again becomes epidemic.

The formula of the vaccine, aside from type pneumococci, should be made to correspond roughly with the bacterial flora at hand in differ-

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*Given before the Tri-State District Medical Society, Rockford, Illinois, September 1, 2, 3, 4, 1919.

ent parts of the country, although a study of the results obtained last year indicate that special adjustment is, in general, not necessary. The strains should be incorporated as soon after isolation as practicable. Bacteriologic laboratories in various communities, the biological manufacturers, and state and municipal boards of health should supply properly prepared vaccines for prophylactic inoculation. The oil vaccine, it seems to me, should be preferred, since the dose can be made larger with less constitutional reaction, owing to the slow absorption. Moreover, the method for the preparation of lipovaccines which Osterberg and myself have developed is quite simple. (J. A. M. A., 1919, lxxiii, 87-91). During our study of prophylactic inoculation with a saline vaccine, it became clear that the immunity conferred diminishes perceptibly after a period of six weeks to two months, and hence indicates that revaccination at the end of this time is desirable, which can be done more readily with the oil vaccine, since only one dose at a time would be necessary.

DISCUSSION.

Dr. Solomon Solis Cohen (Philadelphia): The question seems to be rather important. I think that Dr. Rosenow's work and the demonstration that he has brought before this Society is convincing of the necessity for the wide-spread use of properly prepared bacterial preventives against influenza.

In Dr. Rosenow's charts, it appears that in some cases the persons who had been vaccinated twice were perhaps more susceptible to the infection than the persons who had only been vaccinated once, while those who had been vaccinated three times appeared to have recovered from the temporary depression caused by two vaccinations. I would like to question Dr. Rosenow on that matter.

Dr. Rosenow: So many physicians in their desperation used the vaccine in the treatment of the disease. If there was actually a real negative phase in the dosage that was used, you would think that the person who was vaccinated surely would be the one who would show bad effects. Questionnaires from over 2,500 physicians who used the vaccine generally showed, with one or two exceptions only, that no one in the whole number felt that there was a slight negative phase. They were practically all agreed that there was not. Those who in their desperation used the vaccine in the treatment of the disease felt that it did good even then. That, of course, we don't know. When you come to the analysis, the epidemiologist says, "How is it possible that you can do any person any possible good with a dead germ when he is already infected with a living one?" It brings up the whole question of the use of vaccines in acute infections.

In cases of influenza, there is first the attack. It runs for three, four or five days, and then the patient either remains well or something bad happens. Suppose that after three or four days the vaccine should be given, particularly if the temperature is still high. It is common that there is a prompt drop in the temperature. Many individuals to whom the vaccine was given daily expressed themselves as feeling better; the aches and pains disappeared for a period after the vaccine was given. According to the epidemiologist that seems impossible.

Recently there have been some studies that might have explained that this apparent improvement that has been observed by many persons might have some basis, namely, this: As the person is infected for those three or four days, certain other bodies might be formed but be held bound by the cells and the other bodies may not appear in the circulation blood. Therefore, when you give an injection, this immediate drop in temperature, according to Larson's work, might be the result due to the throwing into the circulation of these bound in bodies that are liberated by the injection. But the time to use the vaccine is before the person is sick. That is certain. (Applause.)

Dr. D. R. Connell (Beloit, Wis.): I would like to ask Dr. Rosenow where one could secure some of this serum. I suppose he will answer, "At the state laboratory of Wisconsin, at Madison." If I recollect aright, the state laboratory at Madison said that the serum was useless, and about three months ago they told us it wouldn't be any use to try to get it there.

From Dr. Rosenow's talk, it sounds all right, and I would like to know where to get it. The things in the drug stores certainly are not any good.

Dr. Rosenow: That question has been under discussion for a number of weeks. As the demand is now looming up for it, it will be physically impossible to make it all at one place. The logical thing is that it should be made in the various localities where the disease occurs. To my mind, it is just as logical to immunize persons temporarily with pneumococci and streptococci as to immunize them in the case of typhoid. According to statistics, the height of influenza lasts from about six weeks to two months.

The matter of where to get the vaccine is most perplexing. Most State Boards of Health have done nothing toward producing the vaccine. As far as I know, there has been really no intensive effort to prove whether it can be made in the localities where it is needed.

Following a number of cases of botulism, or meat poisoning, reported to state health officers here, the U. S. Public Health Service has detailed Surgeon J. C. Geiger to make an investigation in co-operation with the state officers.

Over 10,000 discharged, disabled soldiers were undergoing treatment in Public Health Service hospitals, or under contract with private hospitals, during January, according to tabulated returns. The number of applicants for treatment under the War Risk Act is constantly increasing, as the men become familiar with the fact that they are entitled to free treatment.

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 514 Wells Building, Milwaukee

Vol. XVIII. February, 1920 No. 9

EDITORIALS

Osler's Ideals

I have had three personal ideals: One to do the day's work well and not to bother about tomorrow. You may say that is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it more than anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it well to the best of my ability, and letting the future take care of itself.

The second ideal has been to act the Golden Rule, as far as in me lay, toward my professional brethren and toward the patients committed to my care.

And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man.

AIMS FOR ORGANIZED MEDICINE.

THE average practicing physician is concerned mainly with the concrete rather than with the abstract, with the difficulties of labor in a given case rather than with the effects of modern life on the birth canal, with the cure of a difficult case of gonorrhea rather than with vice control, with the setting of a fracture rather than with the laws of gravity, with the death of the individual whose life he has tried to save rather than with morbidity statistics. The present social period is one in which the abstract has been holding undue sway. The abstract idea of the superiority of the German and the benefits that would come to the world from German control precipitated the world war. The abstract idea of the value of political control by the proletariat has ruined Russia and caused serious unrest throughout civilization. In our social leadership we have need of men trained to deal with the concrete but to gain this leadership these men must learn to generalize from their concrete experience and to meet abstract ideas based on fancy with abstract ideas based on fact. Society should look to physicians for leadership in dealing with many of the most fundamental problems of life. The physician must learn to deal with these problems in a broad way if he is to protect his profession from control by those who deal with social problems without understanding social limitations. If the physician is to deal with social problems he should begin with a study of the organization of

his own profession and of its economic relations to the community. Modern scientific medicine cannot be effectively and economically applied to the needs of present day highly organized communities by practitioners competing as individuals. Some kind of group medicine combined with specialization is certain to take the place of competitive individual practice. Hospital care is coming more and more to take the place of home care in the treatment of many types of cases. The practitioner can treat a given number of cases more efficiently and with greater economy of time in a hospital than when scattered over a broad territory. Hospital care can be most efficiently given when the attending physicians have an organized staff than when each attending physician makes an individualized demand for a special type of service. In a state like Wisconsin and with modern conditions of transportation there should be few communities without local hospitals for the care of cases that may be as well treated locally as elsewhere. The organized profession should see that these hospitals are established and properly supported in communities where they are now lacking. The community should be educated to give such support through taxation that the charge for hospital care for the individual needing it may be kept within his means. In the larger cities we should expect larger hospitals with groups of specialists on the staff who can give proper care to types of cases for which provision cannot be expected in hospitals in smaller places. Cordial and mutually helpful relations should exist between the hospitals and profession in the larger cities and those in the smaller communities.

Finally, the organized medical profession of the state should give hearty support to the promotion of medical education within the state, encouragement to the increase of the endowment of the Marquette University School of Medicine and support of legislation to provide funds for a complete medical course at the state university. Between the medical schools and their hospitals and the profession organized about local hospitals there should be close cooperation. Medical organization within the state should be not merely for the purpose of a periodic gathering to listen to papers, for support of a medical journal and for occasional expression of opinion before a legislative committee. It should aim at the most effective organized application of medical science to the needs of society and at the most effective organized promotion of medical research and social welfare. In subsequent editorials we hope to point out progress along these lines that is being made elsewhere and to give some suggestion as to what we should aim to do in Wisconsin. We hope that these editorials may encourage discussion in our columns concerning the topics suggested.—*C. R. B.*

TUBERCULOSIS AND PREGNANCY.

At a recent meeting of the Milwaukee Medical Society, Dr. C. H. Davis presented a paper on Tuberculosis and Pregnancy. From the discussion that followed it was evident that the subject touched the deep interest of every physician present. It was also evident, however, that opinions differed widely on some of the problems involved, and that the questions of the influence of Tuberculosis on Pregnancy or vice-versa, the influence of Pregnancy on Tuberculosis, were still far from answered.

In order to throw a little more light on this subject, a committee consisting of Dr. C. H. Davis, chairman, Dr. Harry Cohn, of the Milwaukee County Dispensary, Dr. W. B. Ford, of the Milwaukee Health Department, Dr. L. G. Sykes, of the Northwestern Mutual Life Insurance Company, and Dr. Oscar Lotz, of the Wisconsin Anti-Tuberculosis Association, were appointed to try and evolve some means which would give us a little more accurate knowledge concerning a question of vital interest to every individual.

The committee has decided to begin its work with a statistical study. On another page of this issue of the Journal, you will find a questionnaire, which if returned in sufficient numbers, should prove to be of considerable value in this study. It is the hope of the committee that every physician in Wisconsin, in the event of attending a case of pregnancy with tuberculosis, or having in charge a case of tuberculosis complicated by pregnancy, will be sufficiently interested to tear out the questionnaire from the Journal, fill in the answers and return same to the committee. The editor of the Journal has kindly extended to the committee the use of this space for an unlimited time, so that a questionnaire will always be at hand. Secretaries of County Medical Societies, or any other physicians can obtain additional copies by sending the request to Dr. Oscar Lotz, Wisconsin Anti-Tuberculosis Association, 558 Jefferson St., Milwaukee, Wisconsin.

THE PUBLIC LIBRARY AND HEALTH WORK.

The following suggestion is quoted from a recent letter received from Dr. R. E. Mitchell, secretary of the Eau Claire County Medical Society:

"Another matter very much on my mind, is to write you about the nice work our local librarian Miss Laura Olson, has done in regard to displaying the nostrum posters of the A. M. A. purchased for exhibition purposes some months ago. Without any fuss or feathers, Miss Olson has had a fine display in the lobby of the library, day after day. Needless to say, the local press has ignored this enterprise absolutely and it has seemed to some of us that the pages of the both papers have fairly sung the praises of this and that nostrum since this little educational campaign began. I wonder if there is not some way to get behind this sort of thing. Would it be possible to arrange for a little notice in the Anti-Tuberculosis journals and possibly some others? Please advise me."

The suggestion is passed along to other societies. The posters referred to should be on display in some public place in every community in the state. They can be secured by writing Dr. Alexander R. Craig, secretary A. M. A., 535 N. Dearborn St., Chicago. Other librarians in the state have shown a willingness to cooperate in public health instruction by enclosing leaflets in the books issued to the public. Here is work worth while for your local county committee on Health and Public Instruction. The Journal thanks Doctor Mitchell for the idea and asks others to send in helpful suggestions.

AS OTHERS SEE US.

Editorials From the Lay Press.

MEDICAL SCIENCE.

(From the Green Bay Press-Gazette.)

The victories which medical science has won over disease have in very few instances if ever, been decided by a lucky chance. Only by utilizing the accumulated knowledge of centuries and all the information available from his contemporaries, has the investigator been enabled to make significant discoveries leading to the cure or prevention of disease.

Contributions to the medical science of today come from the most diverse sources. The physical chemist determines one fact, the pathologist another, the zoologist, the bedside physician, the sanitary engineer, the economist and many other specialists make and record their observations and the interpretations which they place upon them.

These discoveries must stand trial at the hands of contemporary workers along the same lines. If they stand the test, they become incorporated into a working hypothesis to be applied practically until new discoveries show it to be false in fact or in interpretation, or place it in a new light, where its application may be different.

The literature in which observations bearing on medical subjects are reported and thrashed out is of such enormous volume that no one mind can compass it. Even with the aid of periodicals which attempt to collect and classify this literature in the form of abstracts, the worker in one single little branch of a medical specialty is pressed to keep abreast of his subject.

It is like a fusillade of bullets directed against our common enemy—disease. If many a bullet misses the mark it is nevertheless true that now and then some do hit it squarely. Disease is slowly but surely being pushed back from trench to trench, and ultimate victory is only a matter of time, perseverance and concerted action.

THE DOCTOR'S DILEMMA.

(From The Milwaukee Journal.)

The doctor, like his brother professional men, finds himself in a tight place in these days where income and outgo make such close connections. But the doctor has an additional grievance. The salaried man gets his pay, such as it is, on time. The doctor frequently has to wait for his and sometimes waits in vain.

All the other bills apparently take precedence over the doctor's. Not, surely, because his services are less valued or because he is less in need, but more because he has the feeling that in his profession service should rank above profit. Were he to emulate the tradesman, he would run the risk of lowering the splendid tradition of his brotherhood. A minister almost never sues for his salary. A doctor must look at it in somewhat the same way.

If the ethics of a profession stand in such wise, an obligation of honor surely lies upon those whom the profession serves to accept the same high standard and live up to it.

FEDERAL AID TO SOLDIERS.

IN almost every community in the United States there is a discharged soldier, sailor, marine, or war nurse, suffering from some injury, or ailment, which dates back to service with the fighting forces.

Often this injury or ailment has made it hard or impossible for them to fit in where they did formerly. They are handicapped and need help; not charity, but mental and physical reconstruction. In many cases such people unfortunately keep their troubles to themselves. They are reluctant to seek aid or advice, for fear their friends might consider them weak. Possibly you know such a person.

If you do, encourage him to take his troubles to the Government. The War Risk Insurance Bureau and the United States Public Health Service are especially anxious to get in touch with such individuals. The Public Health Service has set up a chain of reconstruction bases throughout the country for beneficiaries of the War Risk Bureau. These are not Army hospitals, nor is there Army discipline in connection with them, but rather a system of hospitals similar to the general hospital in large cities except that the treatment is free and goes much further than in the ordinary hospital.

Recreation, vocational training and wholesome entertainment are combined with treatment. While men are being bodily rebuilt they have the opportunity of learning some useful occupation, or pursuing academic studies. They are taught not only to find themselves, but to better their condition. The environment is as homelike as it is possible to make it.

A great many men who went into the Army have developed tuberculosis and other diseases requiring special treatment. The Public Health Service has separate hospitals and sanatoriums for these patients, where they may get the best treatment known to medical science.

The United States Public Health Service is now operating 43 hospitals for the care of discharged, disabled soldiers, sailors, marines and war nurses, who are beneficiaries of the War Risk Insurance Act.

The United States Public Health Service is conducting a campaign throughout the state to improve health administration in the rural districts. The work is being financed jointly by Federal, State and local authorities.

THE JOURNAL CLINIC

Edited by
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SPOROTRICHOSIS—REPORT OF A PROBABLE CASE.

BY CLARENCE ALLEN BAER, M. D.,
MILWAUKEE.

1. Sporotrichosis is a dermatomycosis due to a fungus called sporotrichum. The fungus is filamentous and reproduces by means of spores. The spores are 3-5mm long according to De Beurmann (1) Gougerot (2) (3) describes three types of the disease.

(a) Systematised gummatous lymphatic sporotrichosis.

(b) Sporotrichosis with multiple abscesses.

(c) Disseminated gummatous sporotrichosis.

Most of the cases reported are as follows: small mobile tumors form under the skin. They are painless. Later the skin becomes adherent and violaceous, and finally perforates and a thick, ropy, sanguinolent yellowish pus exudes. The healed lesions leave superficial delicate scars. The individual lesions resemble syphilitic or tuberculous gummata but both these diseases can be excluded: The lesions are not cured by mercury and therefore are not syphilitic. The inoculation of the pus into guinea pigs does not cause tuberculosis in the animal, and therefore, they are not tuberculosis. Furthermore the Wassermann reaction of the patient's blood is negative and no tubercle bacilli can be demonstrated in the pus in the lesions. The first case, with laboratory findings, was published by Schenck (4) in 1898. This is the first description of the sporotrichum in relation to this disease. The second case was reported by Hektoen and Perkins (5) in 1900. The third case was published by Quain (6) in 1904. In 1906 and 1907, De Beurmann and Gougerot, (2) (3) published two papers, reporting several cases in France, and giving a detailed account of the disease and its various manifestations. In 1910, Hyde and Davis (7) reported a case from the city of Chicago. Hamburger (8) in 1912 was able to find 28 cases in the American literature. Meyer (9) in 1915, reported that he found 82 cases in the American literature of which only 50

had been verified by cultures. One of these cases, but without cultures having been made, was from Wisconsin. Finch (10) in 1914-15 reported one case from New York State. The first case from Tennessee was reported by Freeman (11) in 1915. In 1917, Spoor (12) reported the first case from the state of Michigan. The first case reported in Ireland was by Wallace Beatty (13) (14) in 1917. And in 1918, he again reported the same case as of sufficient interest to warrant the repetition. The first case reported from Indiana was by Leitz—(15) of Evansville in 1917. And the first case to be published in England was by Blaisdell (16) in 1917. And Eisenstaedt (17) in 1918 reported another case from Chicago. These details about reports of individual cases are given in order to emphasize the fact that we are dealing with a disease only comparatively recently recognized. The cases reported were mainly among people who had dealt with animals or handled wood.

REPORT OF CASE.

Male: aged 33 yrs., motor company. Until eight years ago was a veterinarian. In October, 1918, some days after cutting branches off of some trees and getting his arms scratched by the thorns of a thorn apple tree, patient noticed small papular swelling on the ventrum of right forearm. A few weeks later a second swelling, appeared near by. There were no subjective symptoms of any kind. In January, 1919, several more small swellings appeared—they became violet-red color, slightly painful, and would finally after some weeks open and exude a very small quantity of thick creamy pus. During the last nine months many of these nodules have appeared, always on the right forearm, although not confined to the ventral surface, and upon healing some would leave superficial, sharply outlined scars of a light brown color. The open ulcerations would be rather superficial and have undermined edges. The lesions would not be painful until almost ready to ulcerate and then they would be exquisitely tender upon pressure. Incision of the lesion before they ulcerated, yielded a very small quantity of thick, almost gelatinous pus. I saw the patient the first time towards the end of September, 1919. He was sent to me to see what could be done about the boils that were constantly present upon his forearm. Upon examination my first impression was that of syphilis—a gummatous, ulcerative, tubercular syphilide. Closer examination, however convinced me that the small gummata were not syphilitic; that the scars were not syphilitic; that the color was not syphilitic and that the newest nodules, still deep in the skin and colorless and painless were not sypbilitic. A Wassermann was made, nevertheless, and was frankly negative. Examination of the pus obtained at this first visit showed only ordinary pus cells and staphylococci and an autogenous vaccine was made. Upon the second visit another smear was made from the pus and the microscopical fields contained many fairly large round bodies, about 5 mm. in diameter, completely filled with small densely black granules. These were undoubtedly spores although not recognized as such at that time. A few days later, a fresh microscopical specimen taken from pus in one of the deepest nodules, showed abundant branching, interwoven mycelium. According to most of the reports, the spores and mycelium are not demonstrated in the fresh pus, although DeBeurmann[1] states that they have been demonstrated in fresh specimen. Most of the reports of laboratory findings state that the spores are oval in shape although they may be round. The spores found by me in specimens from the fresh pus were all perfectly spherical. Cultures were made on glycerine agar, and on glucose agar on October 10th, 1919. A few days later a cream colored, later coffee colored, later almost black growth appeared on the media until the 7th day, when a black growth was present. By the 10th day, a white mycelium had begun to grow on the media and continued to spread, so that there was present a black growth with white mycelium over it. Reports from others state that mycelium does not appear visibly on the culture media. But the appearance of the mycelium in all the culture tubes leads me to think that the mycelium could not have been an accidental invader. Miscroscopical examinations were repeated several times and spores and mycleium were found in all examinations following the very first one, in which the pus was taken from the superficial ulcers. All subsequent examinations were made from material taken from the deeper nodules under aseptic conditions. There are three fungus diseases that in their clinical appearance resemble syphilis or tuberculosis. They are actinomycosis, blastomycosis and sporotrichosis. Actinmycosis and blastomycosis can be excluded by the morphological dissimilarities of the microscopical appearance of these fungi from those of the fungus under discussion.[2] Therefore in spite of a few minor cultural differences from those described in the absolutely typical sporotrichum, we are forced to the diagnosis of sporotrichosis in this case. The patient is improving rapidly under antisporotrochotic treatment.

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"BOTULISM FROM EATING SUMMER SAUSAGE."

BY F. E. CHURCH, M. D.,

BACTERIOLOGIST, MILWAUKEE HEALTH DEPARTMENT.

Cases of Botulism have been reported from time to time, since 1735. More recently, an outbreak in Canton, Ohio, from eating ripe olives, in which 14 cases of poisoning occurred, 11 among the guests, and 3 among the employees of a club. Judging from the number of deaths reported by the U. S. Public Health Service, from food poisoning, between the years 1910 to 1916 inclusive, there is estimated 874 deaths annually among the population of the United States, due to food poisoning. Just what proportion of these deaths are due to the Bacillus Botulinus, first isolated by Von Ermengen in 1894, is unknown; but when the difficulty of diagnosis is remembered, together with frequent reports of deaths from "ptomaine" it is likely that Botulism in the U. S. is more common than reports would indicate.

In America, Botulism has been most often associated with the use of home-canned fruits and vegetables, while in Germany, it usually has followed the use of poorly cooked meats; sausage, ham, etc. Thus, cases of Botulism from sausages and other meats, are quite rare.

The number of bacteria in ordinary sausage, varies greatly and very little significance can be attached to mere numbers. Although Slooten sets the limit at 2,000,000 per gram while Weinzirl and Newton, from their work on Hamburger steak, have suggested 10,000,000 bacteria per gram, to be taken as a standard for sanitary meat. The author suggests that when large numbers of bacteria are present, as 10,000,000 or more, that it be regarded suspicious and further study be made to determine whether intestinal or other pathogenic bacteria are present. In well cooked, smoked sausage, Slooten found the number of bacteria was greatly influenced. One raw sausage sample became sterile after a week's smoking. In highly seasoned sausages, many kinds of bacteria are unable to survive. A 10% salt solution was found to kill the pathogens very slowly and six days were required to render the sausage sterile by this means, even if very large numbers of bacteria are present, the greater part may not be unwholesome. No definite standard of bacterial content has therefore been accepted which must not be exceeded if a sausage is to be considered wholesome. Skin used as casing, if properly prepared, cannot be considered to increase the bacterial count or the danger from pathogens. Cary found that B. Coli was found most often in scrapings from the casings.

The following bacteria have been isolated from sausage: B. Coli, B. Typhosus, B. Paratyphosus, B. Enterididis, B. Fecalis, B. Proteus Vulgaris, B. Paracoli, Yeast, M. Tetragenous, Streptococus, Staphylococcus, Aureus and Albus, B. Proteus Fluorescens, and B. Botulinus. The presence of intestinal organisms in so many cases, is largely due to either insanitary or careless methods of manufacture or the kind of meat selected for sausage or both.

Milwaukee has always been noted for its fine grade of sausage and very few cases are on record, where its home-made product has caused illness or symptoms of Ptomaine poisoning.

The case described in this article occurred December 9, 1919, and was due to eating summer sausage which had been purchased from a local dealer by a South Milwaukee baker's wife, Mrs. L. R. The sausage was obtained by the dealer from an Omaha packing house.

The menu consisted chiefly of summer sausage, fried potatoes, bread, butter and coffee. There were no other meats or canned foods served or eaten by the parties concerned. The sausage was eaten by the baker's helper, Mr. H. F. who boarded with Mr. L. R. and the latter's daughter. The family cat consumed the casing. All three became ill about one-half hour after eating, with nausea, vomiting and gastro-intestinal symptoms. The acute symptoms lasted for one day, gradually subsiding towards the end of the third day. Mr. H. F. and the cat suffered the most marked symptoms, while Miss R's were milder.

The case was reported to Dr. Bryant of the Milwaukee Food Division, who immediately investigated the case and submitted to the laboratory for examination, several samples of sausage, including the original Omaha sample.

GENERAL TECHNIQUE EMPLOYED.

The laboratory utensils and the outside of the sausage were sterilized, the sausage being placed in boiling water for about one minute. The sausage was then carefully cut open with a sterile knife and in several places, small squares removed from the center and placed in tubes containing the following culture media. Lactose and Dextrose bullion for fermentation, Paraffine Oil being used to cover surface in case of anaerobic cultures. Plain Agar and a Gelatin stab culture for growth and liquefaction, using pyrogallic acid and Sodium Hydroxide to bring about Anaerobic conditions.

RESULTS, AFTER 24 AND 48 HOURS INCUBATION 37°C AND 20°C.

Anaerobic Lactose fermentation, fair growth, without fermentation. Anaerobic Dextrose fermentation, good growth, with fermentation. Anaerobic Plain Agar, fair growth, fragmentation. Anaerobic Stab Culture, fair growth, with liquefaction.

Smears from the above cultures showed a large gram positive bacilli with and without spores, diagnosed B. Botulinus. Also a gram negative small and large filamentus forms non-spore forming, diagnosed Bacillus Proteus. There were also present, numerous streptococcus, and diplococci. A hanging drop preparation showed the former bacilli to be slightly motile, while the latter were very motile.

ANIMAL INOCULATION.

About 2.5 cc of the mixed broth culture were injected into the paritoneal cavity of a 250 gram guinea pig. Twenty-four hours after, pig showed signs of sluggishness and temperature. Forty-eight hours after, pig died. Autopsy showed no abscess formation, showing that pig died of Toxemia.

Three other samples of summer sausage were submitted for examination, including one sample of Omaha sausage from the same lot, supplied by the local packing house and two samples of fresh Milwaukee sausage.

The same laboratory procedure as previously described, was used, with the following results.

(1) Omaha Sample No. 11.

A. Direct smear showed a few long and short bacilli without spores, suggestive of B. Proteus and B. Coli, also Streptococcus and Diplococcis.

B. Anaerobic and Aerobic cultures 24 to 48 hours incubation at 37° and 20°c.

Aerobic and anaerobic Lactrose fermentation broth, fair growth, no gas. Aerobic and anaerobic Dextrose fermentation broth, good growth, gas. Plain Agar, good growth. Stab Culture, good growth, slight liquefaction.

Smears and hanging drop preparation showed a motile and nonmotile large and small bacilli without spores, gram negative and positive, diagnosed B. Proteus and B. Coli, also a few Cocci were present, negative to B. Botulinus.

ANIMAL INOCULATION.

3 cc and 5 cc of Broth Cultures were injected, intra peritoneally, into two 250 gram guinea pigs. Results: After 24 hours, slight sluggishness and temperature in pig number two. After ten days, animal did not die but remained sluggish. Probably due to Toxemia. Pig number one, remained active throughout this period.

Samples numbers one and two of fresh Milwaukee sausage were cultured in the same way and were negative to B. Botulinus and B. Proteus. The usual cocci were present but less in number. Animal inoculations were negative and the pigs in both cases showed no signs of illness, even when 5 cc of broth cultures were injected intra peritoneally.

SUMMARY AND CONCLUSION.

(1) The organisms isolated from the Omaha sample of summer sausage eaten by the patient, seems, from its Morphology, cultural characteristics, toxin formation and, from symptoms, to be a strain of Bacillus Botulinus and Bacillus Proteus.

(2) The real secret of the bacteriological examination of food, is not in the number of bacteria present, but the kind it contains.

(3) The author feels that more attention should be paid to the bacteriology of uncooked meats, especially in the cheaper grades of sausage, etc.

(4) That other measures should be taken in

their manufacture, to minimize the bacterial contamination.

The case has demonstrated again, how the city Health Department, through its Food Division, and Laboratory, can help protect the public from disease caused by infected foods.

FROM THE CLINIC OF DRS. EVANS, BANNEN, M'GARTY, AND SKEMP, LA CROSSE, WIS.

CASES REPORTED BY DR. M. A. McGARTY.

A few case reports showing the value of a careful physical examination before operation.

CASE 1. Mrs. K., Warrens, Wis. Entered St. Francis Hospital, June 21, 1919.

Chief Complaint: Dyspnea on slight exertion, non-productive cough, pain in lower left chest, general weakness, and edema of both feet, ankles, and legs more marked on left side.

History of Present Illness: During the latter part of January, 1919, patient contracted "Flu". About one week after onset she began to cough. Also complained of some dyspnea then. Two or three weeks after onset her feet and legs began to swell, more marked on left side, there was also pain in the left loin. Altogether she was sick about six weeks. The cough and edema of legs disappeared and she felt fairly well until three weeks ago when she experienced dyspnea and cough again; cough was of a non-productive type. Three days before entrance edema of legs and feet appeared extending up to abdomen. At onset of this last attack she complained of pain in left lower chest which at present has disappeared.

Family History: Negative.

Past Medical History: Diphtheria at sixteen. Does not remember of having had any other diseases of childhood.

First menstruated at the age of fourteen years always regular, no pain, duration five days. Menopause at fifty-one. Present age fifty-three. Married thirty years—four children living and well.

Bowels always regular, appetite good. No injuries or operations. For the past few years has experienced some cough in the spring and fall, lasting only a few weeks. Between these attacks she felt perfectly well. Eighteen months ago she noticed a hard lump in the inner quadrant of right breast, about the size of a walnut. This growth *caused her no alarm.*

Physical Examination: Patient is a short, rotund, middle aged, woman with marked dyspnea and slight cyanosis of face.

Temperature 100°; pulse 88; respiration 28.

Head: Negative.

Teeth and Tonsils: Normal.

Heart: Pulse fairly rapid, slight systolic murmur heard all over precordium, not transmitted. No enlargement to right. Blood pressure 140-88.

Lungs: Right lung normal. Left—percussion note impaired (flat) from base to fourth rib. Breath sounds suppressed (fluid). Left side completely filled with fluid. There is bulging of interspaces.

Right Breast: There is a small growth size of a plum felt over third rib one and one-half inches to right of sternum anterior in inner quadrant of breast. Very hard to the touch but skin over growth not retracted. Growth fixed to rib. No enlarged glands in axilla or under pectoral muscles.

Abdomen: Liver palpable at costal border, but no irregularity or nodules made out. No *fluid* in abdomen.

Pelvis: Negative.

Urine: Trace of albumin. Sp. gr. 1025. A few red blood cells.

Extremities: Edema of both legs to knees, pit on pressure.

Blood: Hemoglobin 80%.
Erythrocytes 4,400,000.
Leucocytes 9,600.

Different Count of 500 Cells:
Polymorphonuclea neutrophiles 69%.
Polymorphonuclea eosinophiles 3.1%.
Polymorphonuclea basophiles .6%.
Lymphocytes 22.3%.
Transitionals 3%.

Diagnosis: Carcinoma with metastasis in mediastinum.

Clinical Notes: June 25—four days after entrance. Aspirated 1500 c.c. of clear amber colored fluid from left chest. No discomfort after withdrawal, no blood. Specific gravity of fluid 1013. Smear showed many lympocytes, transudate.

June 29: Aspirated 1600 c.c. of clear amber colored fluid, no blood. Laboratory report same as in above note. X-ray of chest showed heart normal size. Nothing abnormal made out in mediastinum. Nothing to find in either chest. Unable to determine after seeing X-ray whether growth is causing this pleurisy with effusion or whether it is a straight pleurisy.

July 2: Suppression of breath sounds at left base from the twelfth to the ninth rib. No dyspnea. Patient wished to go home, but was advised to return in thirty days. After two weeks patient returned with marked dyspnea, slight cyanosis, and appeared to be failing fast. Left chest filled with fluid; aspirated 1500 c.c. of straw colored fluid, no blood. Chest was aspirated July 21, 24, 29 and Aug. 5. On this date we noticed for the first time along costal border and in skin over upper abdomen many small, hard nodules, shot like, and skin over nodules, blue in color (multiple carcinomatosis). Fluid was made out in abdomen. Liver palpable two inches below costal border and one nodule felt. Chest was aspirated again on Aug. 15, and Aug. 21. 2,000 c.c. of clear yellow fluid withdrawn each time. Marked swelling of extremities and fluid in abdomen caused by metastasis in liver pressing on portal circulation. About twenty of these nodules were seen over back. Patient was sent home at her own request, and her physician

reports that she died six weeks after leaving the hospital. He was unable to obtain an autopsy.

Discussion: In the differential diagnosis the points favoring mediastinal metastasis due to carcinoma are: Favoring Carcinoma: 1. The fluid was a transudate; 2. The negative clinical and X-ray findings as to lungs and pleura. Favoring Pleurisy: 1. The fluid was free from blood on repeated tappings; 2. The history; 3. X-ray showed no evident growth in the mediastinus. Evidently the growth hindering the lymphatic return and causing the transudate must have been small as it did not show in the X-ray. The patient wished this growth in her right breast removed and for a time we felt that it would be a safe surgical risk.

CASE II. White boy, eight years old.

Chief Complaint: Productive cough. Pain in lower right chest.

History of Present Illness: During March, 1919, patient swallowed an "eight penny nail". Immediately after he told his mother what he had done and then began to vomit and cough; this spell lasted about two hours. He felt well after this attack until the next day when he experienced a similar attack of vomiting and coughing. Thereafter he had one or two more vomiting spells within a period of about four or five months, but coughed continually. On the 23rd of

August, 1919, after eating some ice cream at a picnic, the patient was taken with another severe spell of vomiting which lasted one day. Boy apparently felt well for a week following when he began to show a rise in temperature, complained of pain in chest when coughing, and expectorated a large amount of purulent material which had a very foul odor. This condition kept up until he entered St. Francis Hospital Sept. 7, 1919.

Past History: Measles, mumps, and chicken pox before the age of six years. Otherwise always a healthy child.

Physical Examination: Temperature 104°; pulse 108; respiration 30. Tonsils and teeth normal.

Lungs: Left lung normal.

Right Lung: Expansion limited at right base. Percussion note impaired over both lower lobes. Breath sounds not so full as at left base (weaker) but can be heard and are not tubular in character. Many fine moist rales heard at base posterior up to angle of scapular. Change of position of patient does not elicit a change in percussion note. Respiration 30 and labored. Child looks septic and expectorates freely a purulent sputum with a fetid odor.

Heart: Pulse fast, regular. Tones clear, no murmurs, *not* pushed over to left. Apex inside nipple line.

Blood: Leucocytes 25,000.

Urine: Sp. gr. 1027, negative to albumin and sugar.

X-ray: Steroscopic showed an "eight penny nail" in large bronchus going to right lung. No lung abscess or empyema. By Dr. Bannen.

Operation Sept. 8: Gas-oxygen anesthesia. Resected ten cm. of fifth and sixth ribs anteriorly. Lung brought out through this opening. No adhesions found; lung palpated and nail found in large bronchus going to lower lobe. Bronchus opened and nail pulled out. Opening in bronchus closed with catgut; lung put back in chest and a cigarette drain put down to site of bronchus Pressure on bronchus caused a foul smelling purulent material to run out of nose. Child seemed to stand the operation fairly well. The day following, Sept. 9, the temperature fell to 100.6 degrees; on the evening of the tenth it arose to 103 degrees; temperature ranged between 101 and 103 degrees until the evening of Sept. 15 when temperature arose to 104.6 degrees; respiration 40 and pulse 150 beats per minute. He developed a right lobar pneumonia and died on Sept. 18. After operation luccocyte count ranged from 25,000 to 40,000 and he continued to expectorate fetid sputum. He seemed to be making a good fight until he developed pneumonia on Sept. 15.

Discussion: When this boy entered the hospital, we felt sure that the case was lung abscess. We did not pay much attention to the mother's story about the boy swallowing a nail; however, X-ray proved that she was correct. After studying the stereoscopic plates, we were of the opinion that this foreign body could be removed more easily by going in anteriorly. The interesting feature of this case is the length of time, six months, that the boy harbored this large sized foreign body, with so few symptoms.

CASE III. M. L. L.; divorced; white; male 51.

Chief Complaint: Nonproductive cough, tickling in throat, and dyspnea on exertion.

Present Illness: For the past six years has had a dry nonproductive cough more marked on exertion and when he is up and about. When he goes to bed, he does not cough, but as soon as he arises, cough starts, and continues throughout the day. He never has spat up blood, lost weight, or had night sweats. There is no tuberculous history; neither has he had pneumonia or pleurisy.

Family History: No bearing on the case.

Past History: Mumps and measles during infancy. Eight years ago he developed an ulcer on the glans penis, about three weeks after exposure. He consulted a physician and was told that this ulcer was a soft chancre. At no time has he had any secondary symptoms. Two years following this infection he developed the symptoms he now complains of; that is dry hacking cough, slight dyspnea, and throat trouble. His blood never has been examined.

Physical Examination: Temperature 98.6 degrees; pulse 80; respiration 22. This patient is a strong, robust, healthy looking man. Weight 175 pounds. Tonsils, pharynx, and larynx found normal. Eye reflexes normal. There are no palpable glands. Knee kicks present and not exaggerated.

Chest, Heart: Pulse full and regular rate 80; the same at both wrists. Outline of heart borders normal. Tones clear and distinct and no murmurs. Blood pressure 160 sytolic and 100 diastolic, same on both arms. There are no symptoms of aneurysm.

Lungs: Both apices clear. Over both lungs, percussion note normal. Over both bases breath sounds only faintly heard; that is air does not seem to get down to the bases of the lungs. Patient was instructed to cough hard and then the lungs filled up and breath sounds could be heard more distinctly. No rales heard. Blood taken for Wassermann and was found positive.

X-ray: Stereoscopic plates showed a growth or glands in mediastinum beneath sterum between the fourth and fifth ribs. Arch of aorta, lungs, and heart found normal. This bunch of syphilitic glands pressing on the large bronchus prevents the air from passing into the bases of either lung.

Diagnosis: Syphilitic glands in mediastinum.

Discussion: The history of cough, nonproductive, exaggerated when up and about, not present when in bed and the negative pulmonary and throat findings with the venereal history, led us to believe that this case was of syphilitic origin. It is interesting to note, with a fairly definite history of syphilis minus the secondary symptoms, that this disease should make itself manifest in this way. This case has been under our observation for eight weeks and in spite of the heavy anti-syphilitic treatment, salvarsan, inunctions of mercury, and large doses of potassium iodide, there is only a slight improvement and the blood remains positive. His only hope lies in being treated to the limit.

CASE IV. C. P.; single; white; male; age 20.

Chief Complaint: Pain in right shoulder.

Present Illness: June 23, 1919, patient experienced a dull pain in right shoulder, increased on moderate exertion. He consulted a physician and was told he had rheumatism; at this time the shoulder was not examined. This pain has continued with increasing severity up to the time first seen by us, July 1, being worse at night, not affected by sudden changes in temperature. There is no history of injury or previous attacks of rheumatism or neuritis.

Past History: Whooping cough, chicken pox, and mumps during infancy. Frequent severe attacks of tonsilitis during young adult life. He has had no other illness. He denies ever having had any venereal infection.

Family History: Father accidentally killed at the age of forty, mother and two sisters living and well. One child died during infancy, cause unknown.

Physical Examination: Temperature 98.6 degrees; pulse 84; respiration 18. This patient is a small undernourished, anemic boy of twenty years. There is a growth or mass the size of half an orange attached to the right scapula posterior. This mass does not fluctuate. On raising both arms at right angles to the body, this mass involves the tissue and muscles in the sub-scapula area. The post-cervical and inguinal glands were palpable and hard to the touch. There were no palpable glands in either axilla or groin.

Lungs, Heart, Abdomen, X-ray, Urine and Blood negative. Blood for Wassermann positive. Four specimens of this patient's blood were sent to the laboratory at Mendota, at intervals under different names and returned each time with a positive. * * *

Diagnosis: Syphilitic growth of right Scapula.

Discussion: When this case was examined at the office, we all were of the opinion that this was a sarcoma, however, the blood proved we were wrong. The mass has now disappeared and he is free from pain, under heavy doses of mercury and potassium iodide. In spite of this fact his blood remains positive. He has not been given any salvarsan. He denies exposure and there is no scar on penis. Was the disease inherited? We are unable to influence the other members of this boy's family to have their blood examined.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

WITHOUT CHARGE.

W. D. STOVALL, M. D.

No postage is required for specimens coming to the State Laboratory of Hygiene, the State Cooperative Laboratories and the Laboratory of the State Psychiatric Institute at Mendota. There has not been any charge for work done in the laboratories, and now that all specimens can pass through the mail without stamps the expense of using any of the state laboratories is nil.

The United States Public Health Service is making an effort to get better reports on communicable diseases. They have realized that an early diagnosis is the first essential in an early correctly reported case. In order to advance this purpose they have appointed the Directors of the State Laboratories as Collaborating Epidemiologists and by the conditions of this appointment the privilege of using the United States franking system for mail going from and coming to the laboratories has been permitted.

We are now preparing a new set of labels for our mailing cases upon which is printed "This Package Needs No Postage." These labels have not been received and therefore will not begin to appear for a few weeks. Everybody is requested

to watch the new supplies they receive from the laboratory for the appearance of the new label. When it is found on the cases no postage is required. The specimen is collected and the case put into the mail.

This should be a great stimulation for the increased use of the laboratory facilities provided by the state. There will be absolutely no cost, not even postage, and no delays because the necessary postage does not happen to be at hand.

HEALTH BY MAIL, A NEW SYSTEM OF COMMUNICABLE DISEASE CONTROL.

BY ROBERT OLESEN, M. D.,

PAST ASSISTANT SURGEON, U. S. PUBLIC HEALTH SERVICE, EPIDEMIOLOGIC AIDE, WISCONSIN STATE BOARD OF HEALTH,

MADISON.

The slogan "Health by Mail" may arouse the suspicion that the Wisconsin State Board of Health contemplates the treatment of certain ailments through the medium of the mails. It might also be concluded, after scanning the caption of the present article, that the central health agency expects to compete with the general practitioner in the field of curative medicine. This, of course, falls far short of the actual purpose and intent of the Board. What is contemplated is an improvement in the registration of communicable diseases, such betterment being secured by encouraging physicians to mail their reports of cases promptly to the local health officers. The latter, in turn, can effectively advance the cause of preventive medicine by utilizing immediately the data in their possession, in addition to forwarding all reports to the State Board of Health for its information and study.

In a previous article[1] it was shown that ber, 1919.
communicable diseases are incompletely reported in Wisconsin. Moreover, this condition of affairs handicaps officials concerned with the control of these affections to such an extent that much unnecessary sickness and sometimes death is occasioned thereby. In another article[2] the importance of efficient morbidity registration was emphasized and an analysis made of some of the reasons commonly advanced for failure to submit reports.

The conclusion arrived at as a result of a thorough study of the morbidity registration problem in Wisconsin is that earnest and continued efforts must be put forth to insure immediate and lasting improvement. Acting upon this premise the State Board of Health, in cooperation with the United States Public Health Service has devised and put into active operation a plan whereby the reporting of communicable diseases is simplified and yet rendered more complete, accurate and helpful. The system utilizes the Government franking privilege for transmitting the postal card reports of physicians and other persons to local health officers. The weekly summaries of the health officers to the State Board of Health is likewise forwarded under the frank. Not only will a considerable saving of postage be effected in the aggregate, but notification will be made more convenient through the elimination of postage stamps.

To comply with the legal requirements associated with the use of the franking privilege it was necessary to designate a number of health officers as collaborating epidemiologists of the Public Health Service. Thus, the State Health Officer was appointed to this position at the nominal salary of $1.00 a year while the Deputy State Health Officers and the health officers of the larger cities of the state were designated as assistant collaborating epidemiologists at the same salary. As rapidly as possible it is the intention to extend this system by appointing additional local health officers to serve in similar capacities.

In addition to permitting the transfer through the mails of the franked post cards the appointment of the "dollar a year" men confers another privilege, that of transmitting all correspondence relating strictly to the subject of communicable diseases without postage. Furthermore, it will soon be possible for physicians to send sera to the Psychiatric Institute as well as specimens to the State Laboratory of Hygiene or several cooperative laboratories without affixing postage. This will undoubtedly facilitate the transfer of material and constitute a notable convenience.

An examination of the postal cards prepared for reporting shows that they do not differ materially from the forms previously used by the State Board of Health. Especially noteworthy is

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[1] "High fatality rates of communicable diseases in Wisconsin: Evidence of incomplete morbidity registration." The Wisconsin Medical Journal, page 266, Decem-

[2] "The need for morbidity registration in Wisconsin." Wisconsin Medical Journal, January, 1920.

the fact that the information called for in the report to the local health officer (Form 1) has been reduced to the simplest terms consistent with accuracy.

FORM 1.

REPORT OF COMMUNICABLE DISEASE.

Section 1416-1, with amendments (Wisconsin statutes), requires every physician or other person to report to the local Health Department within 24 hours, in writing, any of the following-named diseases treated, visited, or known to such physician or other person: Chicken pox, cholera (Asiatic), diphtheria, erysipelas, influenza, measles, meningitis (cerebrospinal), ophthalmia neonatorum, plague, poliomyelitis, rubella, scarlet fever, smallpox, trachoma, tuberculosis, typhoid fever, typhus fever, whooping cough, and yellow fever. Chancroid, gonorrhea, and syphilis must be reported on special forms obtainable from the State Board of Health.

File number.....

Disease (or suspected disease).....

Date of onset.....Date of first visit.....

Date of this report..... Patient's name.....

Age..... Sex..... Color..... Married or single?

..... Residence (full and exact).....

County..... Post office.....

.....

(Physician's signature.)

.....

(Physician's address.)

Another feature is that which permits the reporting of a "suspected disease", thus permitting the adoption of control measures before a positive diagnosis is made. Early isolation of persons suspected of suffering from communicable diseases will, in the near future, serve as a most important precautionary measure.

In many quarters the impression prevails that physicians are the only persons legally qualified as reporters of communicable diseases and that report cards are intended for their sole use. This is erroneous. The law plainly states that "every physician or *other person*" shall report certain diseases "treated, visited or known". Moreover, it is not necessary to make a positive diagnosis of a communicable affection, it being sufficient to report to the local health officer that a communicable disease is suspected. It is then incumbent upon the health officer to make the diagnosis or employ a qualified physician to assist him. When it becomes more generally understood that laymen as well as physicians are required to make reports of communicable diseases, if necessary using the franked cards, a marked advance in the science of preventive medicine will have been made.

The weekly summarized report of the local health officer to the State Board of Health should be forwarded each Saturday at the close of business. If this is done the Board will be in possession of considerable valuable information concerning disease prevalence in the state on the following Monday morning. A sample of the form on which the health officer's report is submitted is shown in Form 2.

FORM 2.

WEEKLY MORBIDITY REPORT.

Report for week ended Saturday*....., 19..
from....., County of..... Wisconsin
(Township, village, or city.)

Disease.		New cases notified.
Chicken pox		.....
Diphtheria		.....
Erysipelas		.....
Influenza		.....
Measles		.....
Meningitis (cerebrospinal)		.....
Ophthalmia neonatorum		.....
Poliomyelitis		.....
Rubella		.....
Scarlet fever		.....
Smallpox		.....
Trachoma		.....
Tuberculosis		.....
Typhoid fever		.....
Venereal diseases	Chancroid	.....
	Gonorrhea	.....
	Syphilis	.....
Whooping cough		.....

*Please mail this report Saturday.

If a case of Asiatic cholera, plague, typhus fever, or yellow fever occurs, report it.

Mail a card every Saturday. When no cases have been reported during the week, write "No cases reported" on the card and mail as usual.

.....

(Signature of Health Officer.)

Heretofore the health departments of the larger cities of the state have rendered two post cards reports each week. Hereafter but one such report will be required as the State Board of Health will act as a clearing house and forward municipal reports to Washington.

Having provided a method for obtaining prompt and complete reports, a consideration of the uses to which this statistical information may be put is in order. The data consist of two principal types, which for convenience may be termed mass and specific. The mass information comprises the weekly summaries of communicable diseases from all parts of the state. In order to display

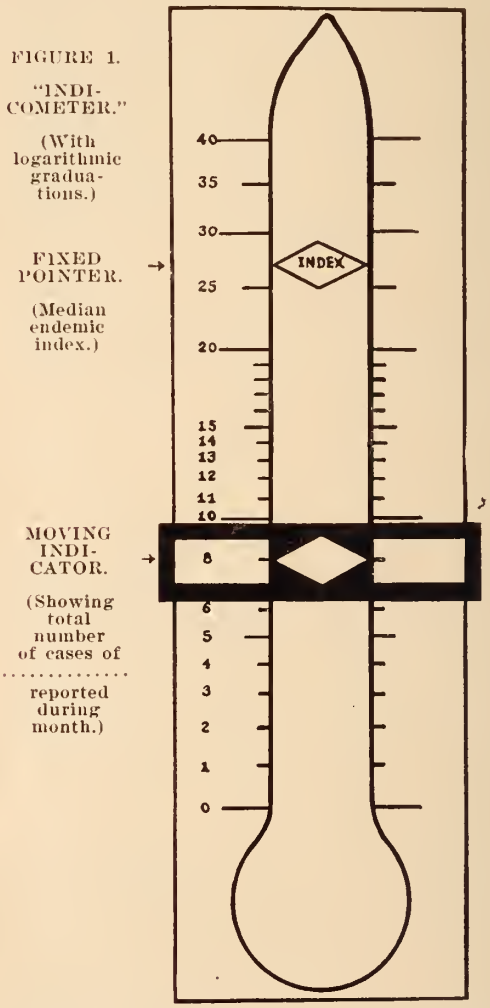
these figures graphically and make useful the information they furnish there has been devised in the offices of the State Board of Health the so-called "indicometer" or index measurer. This device utilizes the features of the thermometer, thus in a way imitating the clock faces and hands used by the Massachusetts State Board of Health for indicating the median endemic indices of the communicable diseases.

The reports of communicable diseases received each day are recorded upon a suitable chart, subtotals being carried so that the prevalence of certain diseases may be determined at any time during the month. These data are transferred daily to the proper "indicometer", there being one for each of the principal diseases. The following are the principles embodied in the "indicometer". There is a scale based upon the greatest number of cases of the given affection encountered during any single month of the past 5 years. The scale may consist of equi-distant or better of logarithmic graduations, the latter being preferable because it displays prominently the first cases recorded.

The second feature of the thermometer-like device is the fixed pointer. This is placed each month at a point determined as the median of the number of cases reported for that month for the preceding 5 or more years. The normal number of cases of the particular disease which may be expected during the month is indicated by this pointer. Neither the estimation nor indication, of course, are accurate. The fixed point, however, does serve as an approximate and frequently, a surprisingly accurate forecast.

The "indicometer" is completed by the sliding indicator which points out day by day the sum total of the cases which have been reported during the previous days of the month. It will readily be seen that the relation of the fixed and moving indicators on the scale on a given day will afford certain valuable information concerning each disease under consideration. If, for instance, the fixed point were exceeded by the moving indicator on the 10th of the month an unusual prevalence of the disease would be apparent. Furthermore, the distance between the two points will often indicate the degree of prevalence and the extent of an epidemic.

Though it served no other purpose than to visualize the communicable disease status as shown by the reported cases, the indicometer would justify the time required to keep it up to date. In order to maintain this system, however, it is necessary for at least one person to be constantly conversant with the case reports, thus insuring an intelligent interest which could not be obtained by ordinary means. This system of communicable disease book keeping is readily adaptable to com-



munities of moderate size and when displayed in a prominent position will aid in reducing the prevalence of the preventable diseases by arousing public interest.

Having shown *how many* cases of communicable diseases are present at a given time it also becomes important to indicate *where* these conditions are being encountered. Ordinarily, the spot map is used for this purpose, the several diseases being designated by pins of different color. In the offices of the State Board of Health, however, a different plan is in vogue. The 18 principal cities

of the state are permanently posted in vertical order on a large board, the localities being placed under each of the principal diseases considered. As additional reports are received from small cities, villages or townships slips bearing the names of these places are inserted for the duration of the month. The number of cases reported during the preceding month and during the month under consideration are shown by colored pins, a green pin for 1 case, a red pin for 5, a pink one for 10 cases, etc. By this means the number of cases and the place affected are graphically shown as the reports are received.

The uses to which the information adduced by the devices just described can be put depends upon the ingenuity of the person interpreting the results as well as the size and the efficiency of the staff at his disposal. Early warning to the local health officer, board of health and other responsible officials is one of the main services that can be rendered. When necessary, expert advice and material assistance can be given to a community. Educational efforts can likewise be put forth to the end that all intelligent citizens likewise are united in combatting disease. Appropriate instructive literature can be issued and in many other ways suggested by the peculiar conditions can intelligent aid be given.

However, without the hearty cooperation of every practicing physician in Wisconsin the plan for improving morbidity registration and thereby aiding in the reduction of preventable illness will be of small avail. The physician, because of his special diagnostic skill, his moral and legal obligations to the state and the general public, is the logical person to render the required reports. At the same time the laity must be taught the necessity for summoning the physician early when sickness is present, so that communicable disease may be recognized and reported without delay. With cooperation of such a character it does not seem to be the part of overconfidence to believe that the prevalence of communicable disease will be materially lessened.

Extensive surveys are being made by the United States Public Health Service of school and home conditions of children in several sections of Missouri. It is expected to result in medical supervision of schools and the establishment of health centers where deficient children may receive medical attention.

CANCER OF THE CERVIX.

A report of end-results in his practice, showing an unusually large percentage of five-year cures, is given by Farrar Cobb, Boston (*Journal A. M. A.*, Jan. 3, 1920). He has had 57 per cent of five-year cures in his special work, and an operative mortality of only 11.6 per cent. The point he especially wants to emphasize is that the radical abdominal operation will cure cancer of the cervix in a large number of cases, when it is done by a skilled operator. His personal work on the whole question of cancer of the uterus in its different forms, its cure and palliation, covers twenty years, and he refers to his former articles on the subject. He has, personally, performed sixty radical abdominal operations, following what is usually called the Wertheim method, modified by himself. The operation consists of the removal of the uterus and a liberal portion of the vagina, with as much of the parametrium as possible, through a median abdominal incision, with ligation of both internal iliac arteries and removal of the regional glands when enlarged and palpable. It is a difficult operation, but in the hands of trained surgeons should not involve any excessive mortality. A renal function of 25 per cent or less would contraindicate the method. Other contraindications are: marked obesity or debility, in case of which the more rapid and safer but less curative simple vaginal hysterectomy should be chosen. The most favorable cases are those in which the microscopic diagnosis has been made early. Frequently an exploratory incision is all-important. Marked involvement of the vaginal walls or enlargement of the inguinal glands contraindicates a curative operation. When the exploratory incision shows the sacral glands enlarged there is no hope of cure but if the iliac and obturator glands are enlarged they may not be cancerous and they should be removed when palpable. In all cases, except those very early diagnosed, Cobb uses the actual cautery, destroying and sterilizing the cervical portion of the uterus as the first step to one operation in least advanced or offensive cases, but when there is fungating disease and foul discharge, he does this as a separate operation, two weeks or more before the hysterectomy. He does this also with patients who have lost much blood. The operation is long, two hours or more. The technic is elaborately described, and the importance of the choice of anaesthetic emphasized. Ether, Cobb thinks, is preferable. Another point emphasized is the freeing of the ureter from the parametrial tissues, as accidental cutting across it is a serious matter. The most discouraging recurrences are those of early implantation metastases, and when they occur faulty technic should be suspected. "Necessary precaution against this form of recurrence are the thorough destruction of the diseased cervix by the preliminary use of the cautery, scrupulous disinfection of the vagina with iodin, and use of the double, right-angled vaginal clamps and a cautery knife in cutting through the vagina." A summary of results obtained in his sixty cases of radical abdominal hysterectomy, in tabulated form, concludes the paper. All the cases have been traced, including thirty-five operated on five or more years ago.

NATIONAL ANAESTHETIC RESEARCH SOCIETY.

Announcement is made of the launching of the National Anaesthetic Research Society, with the avowed purpose of collecting data and prosecuting original research in this field of medicine. The objects of the Society as set forth in the constitution are:

"To promote the science of anaesthetic and to enable its members, after first having obtained the approval of the Society, to submit without prejudice to the dental and medical professions, any views, findings, or accomplishments they have attained; to obtain from all available sources such information as is now extant concerning any material, liquid or gas, known to have anaesthetic properties; to arrange, in co-operation with dental, medical, and anaesthesia associations for the preparation and delivery of suitable interesting and educational papers on the general subject, or relative to some particular anaesthetic; to use influence to prevent the publication or circulation of any false or unauthentic statements concerning any and all conditions, symptoms, or phenomena prevailing during or after anaesthesia by any anaesthetic, and to prepare and distribute on request, forms on which such information can be tabulated with uniformity; to distribute by pamphlet or publication, as its funds may permit, and its governing powers authorize, such reliable data as it may collect or obtain through its members or others interested in the subject of anaesthesia, for use by the medical and dental professions; to co-operate with state authorities and other bodies in the preparation of suitable legislation to safeguard those to whom anaesthetics are administered as well as those called upon to administer them: to use its influence in every way and to give its aid toward the advancement of the Science of Anaesthesia."

The Research Committee which will have supervision of original work and the editing of material designed for the profession and professional press, is headed by F. H. McMechan, A. M., M. D., of Avon Lake, Ohio, editor of the Quarterly Supplement of the American Year Book of Anaesthesia and Analgesia. W. I. Jones, D. D. S., president of the Inter-State Anaesthetists' Association, will have an active part in the committee's work. Representative anaesthetists of the country, who have distinguished themselves by research and progress in their field, are being invited to join the committee.

The Society has been endowed with limited funds which will permit it to demonstrate that there is a field of usefulness for it.

FALSE PNEUMOTHORAX.

The rare cases in which a rapid roentgenologic examination may suggest localized pneumothorax or hydropneumothorax, when in reality another condition exists, have been studied by B. P. Stivelman, Bedford Hills, N. Y. (*Journal A. M. A.*, Jan. 3, 1920), under the title of false pneumothorax. "These false pneumothoraces do not cause any definite subjective symptoms, and the physical findings over the area involved are those of thickened pleura with retraction of the lung tissue. There is usually a fluid level in the region of one or the other of the lower lobes of the lung, where these pneumothoraces usually occur. Their appearance either fluoroscopically or on flat or stereoscopic plates is characteristic of localized hydropneumothorax. Careful observation, however, will disclose the fact that such air collections are extrathoracic and are situated below the diaphragm, which is either pushed or drawn high up into the hemothorax. When situated at the right lower lobe, such gas collections are frequently due to a subdiaphragmatic abscess. The gas formed pushes the diaphragm high up into the thoracic cavity, thus causing the adjacent lung tissue to collapse. When situated at the left lower lobe, they very frequently are due to extreme pulmonary fibrosis with marked upward traction of the diaphragm, and to a more or less dilated stomach. In the former instance the fluid level is caused by the gas-containing abscess, and in the latter instance by the stomach contents." The rarity of reports of the condition suggests the recording of all such cases, so as to avoid a great deal of inconvenience and danger in considering exploratory puncture. It is probable that instances of this condition occur oftener than are reported. Stivelman briefly reports a case of his own observation, and remarks that when these false pneumothoraces occur on the left side they need to be differentiated from transdiaphragmatic hernias, which, when not congenital, are usually due to extensive gunshot or stab wounds. Such may be recognized roentgenographically by their appearance partly above the diaphragm and partly below. He reviews some of the literature on the condition, and concludes that the diagnosis should not be difficult when one keeps in mind that these extrapleural air pouches fail to absorb the gas they contain, as is done in true pneumothorax. The height of the fluid level in a false pneumothorax varies decidedly with the ingestion of food and with the emptying of the stomach. It disappears on fasting. With the use of the fluoroscope a barium bolus may be seen to enter the supposed hydropneumothorax causing a splash and disturbing the fluid level. A localized hydropneumothorax may be simulated by a high diaphragm and stomach caused by extreme pulmonary fibrosis or gastrectasis. This should be kept in mind when an exploratory puncture is contemplated. The article is illustrated.

BENZIDIN-POLYCHROME STAIN FOR BLOOD.

F. A. McJunkin, Milwaukee (*Journal A. M. A.*, Jan. 3, 1920), referring to an earlier publication, in which he described his method of using the so-called "oxydase or peroxidase" reaction, describes a new method which combines the "oxydase" reaction, which brings out the leukocytic granules, with polychrome staining of the remainder of the blood elements. The method, an account of which was published by Graham, suggested to McJunkin the combination of benzidin and a polychrome stain. For fixation, Graham has used formaldehyd-alcohol, which does not permit of polychrome staining, but the author found that methyl alcohol (80 per

cent strength) made by adding 5 c.c. distilled water to 20 c.c. of Merck reagent methyl alcohol, preserves the leukocytic granulation so that smears fixed in this alcohol may be stained by Wright's or other polychrome stains. The success of the benzidin-polychrome stain rests largely on this observation. The only precaution needed is that the cover glass blood smears be allowed to dry for an hour or more before being stained. Preparations two or three days old stain very well. McJunkin gives the details of his precedure: "On a 22 mm. square cover glass (No. 1) 4 drops of 80 per cent methyl alcohol, to 25 c.c. of which there has been added 100 milligrams of benzidin (Merck or that obtained from the Will Corporation) and one drop of hydrogen peroxid, are placed for thirty seconds; this is diluted with 8 drops of distilled water, and the diluted solution is allowed to act for four minutes. The solution is then washed with distilled water and blotted between filter paper 4 drops of distilled water and 4 drops of polychrome stain (Wright's blood stain) are added, the diluted stain is allowed to act for four minutes, and then it is washed, blotted, dried in air, and mounted in balsam. All solutions are dropped from similar bottles, with or without a snout-leak, and not from pipets. The benzidin solution keeps for several weeks." If the granules are colored too heavily, fresh benzidin solution should be prepared. Various special points are mentioned by the author. It is necessary that the polychrome stain used be a good one. Out of four samples of Wright's stain used during six months in the laboratory, two were good, and two gave no chromatin staining, and after two weeks, one of these gave a rather poor polychrome effect. This is a rather common experience after ordering polychrome stains from commercial sources, and the author describes his own method of preparing the polychrome blood stain, now used, which is made up carefully every two weeks, that is, the stock solution. It is possible that this may deteriorate after several years, but there is no evidence of change in a six-months' period. To apply the stain to unmixed films, 4 drops of the solution are placed on a 22 mm. cover glass held in suitable forceps or on top of a small test tube for one-half minute to fix the preparation. Four drops of distilled water are added, and the diluted stain allowed to act for four minutes and then washed in distilled water until the film turns uniformly pink.

THE MEDICAL RESERVE OFFICER.

The medical reserve officer's work in the war zone is the subject of an article by L. J. Hirschman, Detroit (*Journal A. M. A.*, Jan. 3, 1920). He does not discuss these services in the organization and hospitals of this country, but confines himself to the facts observed in the war zone. The original Medical Reserve Corps was organized in 1908, and its personnel was collected from the leaders in the profession, who were, according to a preexisting law, commissioned as first lieutenants. Only a few received special medical training, but when the corps was reorganized, and made part of the Officers' Reserve Corps a maximum rank of colonel was allowed, and the disadvantages of there being no higher rank was speedily experienced, especially when this officer was outranked by his professional brothers in the Allied Armies. Promotions were made to a rank of brigadier-general, however, in other reserve corps. While surgeons whose names were household words were serving as captains, or in a few cases as majors, in spite of this injustice on the part of the War Department, they did their duty efficiently. In the spring of 1918, promotions began to appear in all branches of the army, and the Medical Department endeavored to better its conditions. Nevertheless, a medical reserve officer, however proficiently equipped, was still held down arbitrarily by an age limit, and it was only after the armistice was in effect that the rank which was most needed before, was given and promotions freely made. When one considers that a practitioner who leaves his practice to serve his country, makes a greater sacrifice than the business man who leaves a "going concern", the powers in Washington are apparently only just beginning to realize that the medical profession has been treated unfairly. From personal observation, Hirschman testifies that their work was well done, not only in the field but in all the evacuation and base hospitals. The fact, however, he says, is that of 35,000 medical reserve officers, only about 10 per cent have shown willingness to continue and accept commissions in the reorganized corps. He makes a series of suggestions to be followed in order to make an efficient corps, recognizing the injustice already done. Applicants for positions, who have not seen actual service should start as first lieutenants. The information in possession of the Medical Department at the present time is sufficient to show the qualifications for higher rank, and other sources could also be utilized. All the specialties of civil life should be represented in due proportion in the Medical Reserve Corps. All officers who have held commissions, but were not called to duty, should secure honorable discharge. Hirschman says: "Let us hope that the Surgeon-General's Office, under its present able leadership, will take cognizance of the unfortunate error of our previous unpreparedness and will build up a Reserve Corps for future emergency which will have as its watchword 'efficiency first'."

SPINAL ANAESTHESIA.

Jay Ireland, Chicago (*Journal A. M. A.*, Jan. 3, 1920), reports a case of death following a few days after the use of spinal anaesthesia. The necropsy revealed numerous petechial hemorrhages, thus differing from ordinary cerebral hemorrhages. Apothesin was the local anaesthetic employed; Eggleston and Hatcher have shown that it is more toxic than procain but whether the hemorrhages were due in this case to the toxic action of the apothesin cannot be definitely stated. The blood pressure was lowered by spinal anaesthesia, but was accounted for by the cerebral hemorrhages which involved both the cortex and the basal ganglions.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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The Wisconsin Medical Journal, Official Publication

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Grant	C. M. Schuldt, Platteville	M. B. Glasier, Bloomington.
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Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	A. J. Wiesender, Berlin.
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Langlade	L. A. Steffen, Antigo	J. C. Wright, Antigo.
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Rusk	W. F. O'Connor, Ladysmith	L. M. Lundmark, Ladysmith.
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Sheboygan	Edmund Knauf, Sheboygan	Harry Heiden, Sheboygan.
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Waukesha	F. W. Aplin, Waukesha	S. B. Ackley, Oconomowoc.
Waupaca	E. W. Jones, Weyauwega	H A. Jefferson, Clintonville.
Winnebago	F. G. Connell, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. C. Hayward, Marshfield	Wm. Hipke, Marshfield.

SOCIETY PROCEEDINGS

BROWN-KEWAUNEE COUNTY

A meeting of the Brown-Kewaunee County Medical Society was held January 7 at the Beaumont Hotel, Green Bay. Following a dinner, the 1920 officers were elected as follows: Dr. W. E. Fairfield, president; Dr. H. P. Rhode, vice-president, and Dr. A. J. McCarey, secretary-treasurer.

The physicians discussed several matters of interest to them and to the public and Miss Murray of the Red Cross Chapter, who has been engaged as the Brown County visiting nurse, told of the work she proposes to do in the county schools.

EAU CLAIRE COUNTY.

The first joint meeting of the Eau Claire County Society and the Hospital Staff was held at the Sacred Heart Hospital, Wednesday evening, January 28, 1920. Dr. E. P. Hayes gave a talk on "The Work at the Chicago Lying In Hospital," Members of the Hospital Staff gave interesting reports of unusual cases.

P. E. Riley, M. D., *Secretary.*

FOND DU LAC COUNTY

The regular monthly meeting of the Fond du Lac County Medical Society was held at the Palmer House, Fond du Lac, Wednesday evening, January 14. A very thorough and authoritative address was given by Dr. F. Gregory Connell of Oshkosh, on "Chronic Appendicitis." The doctor's handling of the topic dealt with the practical as well as the theoretical phases of the ailment and its treatment. Drs. David Twohig and E. V. Smith led the discussion. About twenty members of the society were present.

DOUGLAS COUNTY.

The annual meeting of the Douglas County Medical Society was held in the Commercial Club Rooms, Superior, December 10, 1919. Dinner was served at 8. P. M., after which the meeting was called to order and the minutes of the last meeting read. Dr. Oleson of Madison gave a talk on "Health by Mail," which was followed by discussion. The following officers were elected for 1920: President, Dr. W. E. McEachren; vice-president, Dr. C. B. Rydell; secretary-treasurer, Dr. J. C. Kyllo; censor, Dr. G. H. Conklin; delegate, Dr. L. A. Potter; and alternate, Dr. J. Baird.

J. C. Kyllo, M. D., *Secretary.*

KENOSHA COUNTY

At the regular meeting of the Kenosha County Medical Society held at the Elks' Club, January 8, Dr. A. G. Kreutzer of Marquette University, Milwaukee, addressed the meeting on eye, ear, nose and throat work. His paper was discussed by Dr. S. B. Aekley and Dr. P. M. Ross.

MANITOWOC COUNTY

The Manitowoc County Medical Society held their annual meeting December 29, 1919, following a banquet given by the Sisters at the Holy Family Hospital. Standardization of the hospital was thoroughly discussed. For the services so well rendered, the old officers were re-elected for the year 1920.

E. C. Cary, M. D., *Secretary.*

MONROE COUNTY

The annual meeting of the Monroe County Medical Society was held at the School for Dependent Children, Sparta, with Dr. L. H. Prince, Superintendent. A fine six o'clock dinner was served which was followed by the business session, at which the following officers were elected: Dr. L. H. Prince, president; Dr. Thos. Sheehy, vice-president.

MILWAUKEE MEDICAL SOCIETY

The annual meeting of the Milwaukee Medical Society was held in the Health Service Building, Tuesday, January 13. The following program was carried out: Presentation of annual reports; election of officers, councilors, and elective members of standing committees; balloting on names of Drs. C. D. Collins and Wm. Thalhimer; address of the president, Dr. Hoyt E. Dearholt; informal reception to the new officers; refreshments and smoker. The following officers were elected for 1920: Dr. A. W. Gray, president; Dr. W. LeCron, first vice-president; Dr. C. A. Fidler, second vice-president; Dr. Oscar Lotz, secretary; Dr. J. P. McMahon, treasurer; Dr. E. A. Smith, curator; Dr. Carl Davis, librarian.

The regular meeting of the Milwaukee Medical Society was held in the society rooms, Colby-Abbott Building, on Tuesday, January 27, at 8 P. M. Two splendid papers were read, as follows: "Rheumatic Carditis and Bacterial Endocarditis (Lantern Slide Demonstration)," by Dr. Wm. Thalhimer, and "Types of Onset of Pulmonary Tuberculosis (Lantern Slide Demonstration)," by Dr. L. M. Warfield. The meetings of the Milwaukee Medical Society for 1920 have started off with a bang. Much is expected to be accomplished during the present year.

The regular meeting of the Milwaukee Medical Society held in the society rooms February 10, was a "Clinical Meeting," at which the following cases were discussed: "Case of Diabetes,"; "Case of Streptococcus Septicaemia," Dr. L. M. Warfield; "Fibroid of Uterus with Large Polypus (specimen)," Dr. C. H. Lemon; "Papilloma of Stomach," Dr. F. B. McMahon; "Endothelioma of Stomach," Dr. F. A. Stratton; "Sleeping Sickness in Pregnancy," Dr. R. W. Roethke; and "Pathological Sections," Dr. Daniel Hopkinson.

Oscar Lotz, M. D., *Secretary.*

MILWAUKEE COUNTY

The regular meeting of the Milwaukee County Medical Society was held at the Health Service Building, January 9, at 8:30 P. M. Dr. James C. Sargent presented a very interesting paper on "The Wassermann Control in

Treatment of Syphilis." The remainder of the evening was devoted to the presentation of clinical cases.

DANIEL HOPKINSON, M. D., *Secretary.*

RICHLAND COUNTY

At a meeting of the Richland County Medical Society, held January 12, 1920, the members endorsed the move to provide adequate facilities for Richland Center in the following resolutions, a committee composed of Drs. C. F. Dougherty, W. R. Coumbe, H. C. McCarthy, G. Benson and R. F. Breeden being appointed to represent the society in furthering the move. The resolutions follow:

Whereas it now appears that the question of bonding the city of Richland Center for the purpose of erecting and maintaining a hospital therein is to be submitted to the voters of said city at the coming spring election, and whereas the Richland County Medical Society being deeply interested and concerned in all questions relating to the health and welfare of the citizens of the community and where as many of the problems concerning the planning, construction and maintaining of a hospital are of such a nature that their solution can only be effected by those having fitted themselves by medical education and training. Therefore, be it resolved by the Richland County Medical Society that it endorse such a movement, it having to do with the public welfare, and to the end that the medical profession may do their full share in this proposed public improvement the president of this society shall appoint a committee composed of three members and the president and secretary of this society who will investigate the hospital proposition in all its phases. That the members of this society be prepared to render carefully considered assistance to the advancement of this public improvement.

ROCK COUNTY

The Rock County Medical Society held its first meeting of the new year in Janesville, Tuesday, January 27th. Dinner was served at 7 P. M. at McDonald's Restaurant after which the program was given in Dr. Wayne Munn's office. Dr. E. S. Blaine, Roentgenologist for Cook County Hospital, Chicago, gave an illustrated talk on "The Use of the X-ray in Diagnosis by the General Practitioner."

E. B. BROWN, M. D., *Secretary.*

WAUKESHA COUNTY

The Waukesha County Medical Society met at the court room in the city hall. A number of citizens were present to listen to an address by W. D. Frost of the University of Wisconsin, who spoke on the subject of safeguarding the milk supply of Oconomowoc. Dr. Frost recommends that suitable laws be enacted that the city officials could regulate and have supervision over all milk dealers and to insure a supply of pure milk. Dr. Frost is from the department of agricultural bacteriology of the university. Following the meeting the society enjoyed a banquet at the Majestic hotel.

ASSOCIATION NEWS

MINUTES OF MEETING.

COUNCIL OF STATE MEDICAL SOCIETY OF WISCONSIN.

January 3, 1920.

The Council was called to order at the University Club, Milwaukee, at 12:30 P. M., the following being present: Councilors Smith, Cairns, Abraham, Evans, Cunningham, Dearholt, Zierath, Wilkinson, and Windesheim; President Bardeen, Secretary Sleyster, Treasurer Hall, Managing Editor McMahon, Chairman of Publication Committee Lotz, and Dr. Seaman.

The reports of the Secretary, the Treasurer, and the Councilors were read and accepted.

The following officers were elected for the coming year: Chairman, Edward Evans; secretary, Rock Sleyster; treasurer, S. S. Hall.

All correspondence with the Tri-State District Medical Society was submitted to the Council and it was moved and unanimously carried that the Council approve the stand taken as to relations with this society and that during the year and until such time as the Tri-State Society shall meet the objections of the Council, the state society cannot cooperate with the Tri-State District Society, and that the Secretary during the coming year shall use his best judgment in meeting any conditions coming up in this connection, with the knowledge of the Council's full support of any action he may take.

It was moved and carried that a salary of twenty-five dollars per month be paid to the Secretary's assistant which shall be retroactive for the past three months.

The following resolution was presented and unanimously carried: That it is the sense of this Council that the advertising of the "Diagnostic Service" of Milwaukee is not according to the spirit of medical ethics as interpreted by this Council and should not be accepted by the Journal. The Secretary was instructed to write to the secretary of the American Medical Association of the stand taken by the Council on advertising of this character.

The appropriation of five hundred dollars by the 1919 House of Delegates for historical research was approved by the Council.

A communication from Dr. A. R. Craig, Secretary of the American Medical Association, suggesting action by the Council on affiliate membership for Dr. Charles H. Sheldon of Madison, was read and the matter laid on the table, no action being possible until his county society shall make him an honorary member.

Dr. C. R. Bardeen, President, submitted an outline of a plan for a four year course in medicine at the University of Wisconsin and it was moved and unanimously carried that the Council approve the tentative plan presented and that the Council individually pledge themselves to support same.

There being no further business, the meeting adjourned.

ROCK SLEYSTER, *Secretary.*

NOTICE.

The Annual Meeting of the Wisconsin Surgical Association will be held in Milwaukee on Wednesday and Thursday, May 12th and 13th, 1920. This will be a Clinical Session with the presentation of papers in the evening; Clinics will be held at various hospitals and a preliminary program will be published in the next issue of the Journal. All members of the State Medical Society are invited to attend this session, so make note of the dates on your calendar.

DANIEL HOPKINSON, *Secretary.*

COUNCIL PASSED.

The attention of our readers is called to the "Council Passed" announcement of The Abbott Laboratories, on page 00. We bespeak for this advertiser the support and patronage of our members. This firm is doing splendid research work, and the scientific products which it is developing include medicinal chemicals never before made in this country.

The research laboratories of several universities are co-operating with The Abbott Laboratories, to aid them in presenting to the medical profession original, scientific ideas in medicinal chemistry.

Judging from the growth of The Abbott Laboratories, this original, scientific work is being appreciated by the medical profession.

CORRESPONDENCE

PHYSICIANS AND RADIUM.

The Wisconsin Medical Journal for December, 1919, announces the incorporation of the Radium Association of Wisconsin. The object and purposes of the association are to make radium available for the treatment of disease in Wisconsin, to *experiment* with radium in order to increase their knowledge of its actions and indications, to keep available a library on the literature of radium therapy, to lease and buy radium, and to rent it to the individuals of the association, upon conditions laid down by the Board of Directors of the association, and to maintain one or more offices, laboratories, or institutions for the care and treatment of patients with radium and other medical and surgical means, for such consideration or fees as may be determined by the Board of Directors.

The incorporators are among the best practitioners in all branches of medicine and surgery in the city of Milwaukee, and I presume that what they think best to do in this matter would be a fair example of how our leading physicians in the United States would handle such an undertaking.

The author has long been interested in this remarkable chemical and admits the legitimacy of its use, and that it offers relief from some deadly and benign diseases. Several of the men of this group were therefore interviewed, and it was reported that some of the physicians did not expect to apply the radium themselves, others expected to take a few weeks of theoretical and practical instructions, some of them expected to apply it personally, and one has used it for years.

This association would seem according to this medical journal to be responsible for the acts of the individual members, and therefore liable for damage suits brought against them as a result of the unfortunate use of radium. I believe it will be arranged so that the individual physician will be responsible.

There are a number of laboratories being established in this country for diagnosis and treatment. They employ all means of diagnosis and treatment. There are physicians who use radium to the best of their ability, for the benefit of their patients, and there is another class of physicians who use radium principally for revenue. While the usefulness is accepted and legitimate, and the number of cases requiring treatment of radium is being recognized as being a large one, the number of men having the knowledge and skill to fit them to use this chemical intelligently and properly can be counted on the fingers of two hands. They must have months or years of experience in its use. They must first make a positive diagnosis, implying an intimate knowledge and ability to recognize all the various stages of the pathology presented. They must take into consideration, beside the stage of disease, the individual characteristics of the skin, the depth of pathology, filters, the quantity of radium to be used, time and distance of exposure, and observe the nicest detail throughout these treatments. From observation of the busy physician, it is not probable that his patient will get this care, and there are bound to result bad or mortal burns to patients and physicians.

Patients suffering from malignant diseases, hear of what radium will do, read up on the subject, and talk it over with their families. Knowing the danger of radium the thought is bound to occur to a certain percentage of patients, "Why not use radium, and if I get well there is no harm done; and if I die, charge it to the doctor as malpractice." A dose of radium having been given, there is no way of recalling its action. Any physician is bound to testify that the action and depth of exposure of radium cannot be exactly controlled. This is nearly all a plaintiff would need to win a suit for malpractice.

It would be impossible to figure the cost of carrying a physician for liability insurance if he used radium, and it therefore seems advisable to insert in all physicians' insurance policies covering liability, life, personal accident and health, a waiver relieving insurance companies of liability where sued for damages arising from the use of radium.

EUGENE A. SMITH, M. D.

NEWS ITEMS AND PERSONALS

Dr. Charles W. Hughes, formerly of Winneconne, Wisconsin, and who was until his recent discharge from the service senior medical officer in the G. U. Department, U. S. Army General Hospital 28, Ft. Sheridan, Illinois, is in New York City taking post-graduate work in urology and dermatology.

The monthly clinical meeting of the Milwaukee Children's Hospital was held in the Out Patient Building on Thursday afternoon, January 15, 1920. The following cases were presented: "Hypertrophic Pyloric Stenosis," "Pericarditis with Effusion," "Congenital Heart Disease," "Dermatitis Exfoliativa (Ritter)," and "Orthopaedic Cases." All physicians are invited to attend these meetings.

Twelve public health nurses were graduated by the Wisconsin Anti-Tuberculosis Association January 23d. Dr. George C. Ruhland, health commissioner of Milwaukee, delivered the commencement address, and Dr. Hoyt E. Dearholt, executive secretary of the Wisconsin Anti-Tuberculosis Association presented the diplomas.

Dr. Otho Fiedler of Sheboygan has been re-appointed by Governor Philipp as a member of the State Board of Health.

At a recent meeting of the Service Star Legion of Edgerton, it was decided that the Edgerton chapter raise $50,000 for a memorial hospital and that a campaign to raise this amount should be started at once.

Dr. A. R. Tormey has become associated with his brother, Dr. Thomas R. Tormey of Madison. Dr. Albert Tormey is a graduate of the University of Wisconsin and the Washington University of Medicine. He served as a medical officer in France for one year.

Dr. S. W. Forbush has announced that Dr. W. A. Sneeberger of Chicago will be associated with him in his practice at Orfordville. Dr. Sneeberger is a graduate of Rush Medical College and served an interneship at St. Luke's Hospital, Chicago.

Dr. Charles H. Lemon of Milwaukee has been appointed to the state Shop Sanitation Advisory Committee in Madison.

Movement toward securing a $100,000 office building, medical library and club rooms for physicians, surgeons and dentists, was started at a meeting of the Beloit Physicians' and Surgeons' Club, January 16. A committee comprising Dr. A. C. Helm and Dr. H. E. Burger was instructed to take charge of the matter. Members said an effort will be made to interest capital in Beloit in the erection of a building that will contain at least fifty rooms and where nearly every medical man in the city will have his suite of offices.

Dr. M. J. Hamilton of Madison, convicted several years ago of second degree manslaughter and sentenced to seven years at the State Prison at Waupun, has been restored to citizenship by order of Governor Philipp. He will not, however, be permitted to practice his profession again.

The new sub-station of the city health department of Milwaukee was opened January 12th at 2918 North Avenue. Eighteen or twenty nurses have made their headquarters there and one of the school dentists has an office in the building. The station will also contain a child welfare station and clinics for tuberculosis and social diseases.

The Berlin Clinic, composed of Drs. Riordan, Silverthorn and Devoe, was incorporated January 1, 1920.

Dr. D. L. Brady of Cuba City has sold his practice to Dr. F. M. Bair of Lake Mills.

An organization called the Ripon Physicians' Club has been organized in Ripon with Dr. S. S. Hall, president; Dr. O. O'Neal, secretary; and Drs. N. C. Nason, E. T. Barnes and J. S. Foat constitute a committee to draft a constitution and by-laws. The purpose of the club is mutual help and the study and discussion of live medical topics of the day.

The city council and hospital commissioners of Viroqua are again considering the possibilities of a new city hospital. Several months ago a hospital site and building was purchased but on inspection the building proved to be improperly constructed and too small for even temporary uses as a hospital.

Dr. A. S. Loevenhart of Madisan has been chosen president of the Pharmacological section of the American Societies for Experimental Biology.

Dr. A. F. Stueck, formerly of Michicott, is now an assistant in the office of Dr. A. M. Farrell of Two Rivers.

The board of supervisors of Washington County have voted to join with Fond du Lac and Dodge Counties in the erection of a tri-county tuberculosis sanatorium, which will be the second tri-county sanatorium to be built in Wisconsin. All three counties have appointed a committee to act as a joint committee in the preparation of plans and specifications and the selection of a site for the sanatorium.

The remodeling of the building for the Oshkosh Clinic has been completed and the physicians have removed their offices from their former locations and are established in the new ones. Among other things, the clinic building includes one general receiving office, a common library, a general business office, and a laboratory. The board of directors is composed of Drs. F. Gregory Connell, Burton Clark, J. M. Conley, C. J. Combs, and H. W. Morgenroth.

Drs. J. B. Vedder, H. A. Vedder and Lyman A. Copps, of Marshfield, have consolidated their offices and joined the Marshfield Clinic.

Dr. Hendricks, who has practiced medicine in Ashland the past two years, has left for his old home in Manisson, Iowa, where he will locate.

At a meeting of the Methodist Hospital Association held January 20th, committees were appointed whose duties are to recommend a site and an architect to draw up plans for the proposed $250,000 hospital at Madison.

Dr. Gentz Perry of Amery has been appointed to the office of surgeon in the U. S. Marine and Public Health service. His duties are to supervise all the work of this branch of the federal service in Wisconsin. Dr. Perry but recently received an official discharge from the medical corps of the army, having served two years in the service with rank of major.

Dr. J. P. McMahon returned to Milwaukee, February first, after an absence of four weeks visiting eastern Cancer and Radium Therapy Clinics.

Under the auspices of the Waukesha Medical Society, Mr. W. D. Frost of Madison spoke on "Purification, Protection, and Safeguarding the Milk Supply Brought to this City," January 7th, in the municipal court room at Oconomowoc. An invitation was extended to all milk dealers and producers in the city and surrounding vicinity to attend.

Dr. O. P. Ludwig of La Crosse has removed to Parsons, Kansas, where he will take up the practice of his profession.

So far as Milwaukee's health and the affairs of the health department are concerned, the year of 1919 marks a distinct improvement over the preceding years. Out of a population estimated at 455,000 a total of 4,610 deaths were reported for the year, which is nearly 2,000 less than for the year preceding. This reduces the death rate for Milwaukee to 10.3 per thousand, as against 14.82 for 1918. This marks the lowest death record in the history of the city, and places Milwaukee in the foremost rank of the large cities of America having a low mortality.

Dr. Vincent W. Koch, back after eleven months' service overseas, has decided to make his permanent home in Janesville. He has become associated with Drs. Wayne A. Munn and F. B. Farnsworth.

Dr. D. R. Notbohm of Jefferson has accepted the position of company physician at Tripoli.

The appointment of a permanent committee to determine physical standards for children about to enter employment, and to supervise the health of children at work, was announced by the children's bureau of the department of labor at Washington, D. C. The committee is headed by Dr. George P. Barth, director of public hygiene in the Milwaukee public schools, as chairman.

Notice was given by the internal revenue department that application blanks for physicians' permits to prescribe liquor for medicinal purposes are ready. Regulations prohibit druggists from filling prescriptions unless the physician has a permit. Each physician, on being sworn to his application, will be given a number which will be attached to his prescription blank. These numbers must coincide with the lists kept by pharmacists before the prescription can be filled.

DEATHS

Dr. George W. Fox of Milwaukee, age 44, died at his home, January 8, after an illness of six weeks. Dr. Fox was born in Madison, January 30, 1875. He attended the Madison parochial school, Madison academy, the State University, and graduated from Rush Medical College in 1897. After graduation, he was house surgeon in the Presbyterian Hospital, Chicago, for a time and then came to Milwaukee. He was appointed as a member of the staff of surgeons of St. Mary's Hospital and was an officer of that institution until his death. He was also surgeon of the Wisconsin Central railroad and of the Soo line after the Wisconsin Central became a part of that system. He was a member of the Milwaukee Medical Society, the Milwaukee County Medical Society, the Wisconsin State Medical Society, the American Medical Association, and a fellow of the American College of Surgeons.

Dr. W. A. Pease, 73 years old, died at his home in Otsego, January 6. He was a member of the Columbia County, Wisconsin State, and American Medical Associations. He was born in 1836 and graduated from the Hahnemann Medical College of Chicago in 1886.

Dr. O. H. Martin of DePere died at his home, January 8. He was born at Sandwich, New Hampshire, December 22, 1834. After leaving the Academy at Erie, Pa., he entered the Dartmouth College, taking up teaching as a profession two years later. In 1866 he came to Manitowoc where he continued the teaching profession for two and one-half years as principal of the city schools, later engaging in the drug business. In 1871 he entered Rush Medical College and immediately after his graduation came to Kewaunee to practice, where he continued for thirty-five years. Retiring from active practice, then, he moved to DePere where he lived until the time of his death.

Dr. O. W. Carlson, Milwaukee's oldest physician in years of practice, died January 7 at the age of 76 years, having practiced medicine in Milwaukee for about fifty years. He was born in 1843 in Stockholm, Sweden, and came to Wisconsin ten years later. Just before the Civil War, he came to Milwaukee, enlisted in the Union army, and served through the four years of the war. At its conclusion, he entered Hahnemann Medical College in Chicago from which he graduated in 1872.

Dr. J. H. Leslie of Verona died at his home, January 8, at the age of 58 years. Dr. Leslie was born in Hortonville, August 24, 1841, and graduated from Rush Medical College in 1887. He came to Verona in 1896 where he practiced until the time of his death.

Dr. R. J. Drew of Alma Center died December 28 at the Sacred Heart Hospital, Eau Claire, after an illness of three weeks. He was born in 1874 and graduated from the Medical College of Indiana in 1904. He was a member of the Trempealeau-Jackson-Buffalo County, Wisconsin State and American Medical Associations.

Dr. A. E. McCallen, former head surgeon of the Wisconsin Veterans' Home, died at a hospital in Appleton, January 19, following an operation. Dr. McCallen was born in Lone Pine, Wisconsin, October 8, 1866. He was a graduate of the Wisconsin College of Physicians and Surgeons in 1906 and practiced for a number of years at Hancock. He came to the Veterans' Home in 1913 at which place he had been ever since. He was a member of the Waupaca County, Wisconsin State, and American Medical Associations.

Dr. J. E. English of Baraboo died of chronic myocarditis, January 24, 1920. He was born in Virginia, in 1851, and graduated from Rush Medical College in 1882. He was a member of the Chicago and Northwestern Railway Surgeons' Association, a member of the American Railway Association, and of the Sauk County, Wisconsin State and American Medical Associations. For thirty-seven years he was district surgeon for the Chicago and Northwestern Railway.

HEAT-RESISTANT ORGANISMS.

The heat-resistant organisms ordinarily found in the ligatures have been investigated in the Research Laboratories of Armour and Company, by Frederic Fenger, Eloise B. Cram and Paul Rudnick, Chicago, who publish their findings in the *Journal A. M. A.*, Jan. 3, 1920. More than a hundred cultures were obtained, both from unsterilized ligatures and from those heated at various temperatures. From fourteen typical ones, five distinct types of bacteria were isolated; three spore-forming bacilli and two cocci. All were aerobic and facultatively anaerobic and grew at both 20 and 37 C. though more quickly at the latter temperature. Careful search of the literature failed to reveal any exactly similar cocci, but the growth on agar indicated a saprophytic character and this was confirmed by their nonpathogenicity for mice, guinea-pigs and rabbits. The high resistance of these non-spore-forming organisms to temperatures under conditions found in the ligatures is also specially noted. The detailed findings are given. Before surgical ligatures can be sterilized, the authors say, all moisture should be eliminated in order to prevent hydrolysis Dry sterilization is, therefore, essential. Mercuric iodid and other radical germicides have little or no germicidal value in the absence of water. Chloroform does not destroy these organisms and spores and the only effective means of producing sterility in plain and chronic ligatures is by heat, which may be accomplished by heating them in oil, or some other suitable nonaqueous liquid. The heat must be sufficient to destroy all living protoplasm, but alsolute sterility is assured by gradual heating to 160 C., and maintaining this temperature for one hour. The thermal death point of the five types of bacteria lies between 150 and 160 C. under the conditions found in ligatures and in nonaqueous liquids. One of the bacilli found was classified as *B. vulgatus*, another as *B. simple* of Lawrence and Ford's classification. The third did not conform to any of the aerobic spore-bearing, nonpathogenic types, but its morphologic and cultural characteristics resembled those of *B. lacteus* as described by Chester.

SPRUE.

From the study of a case of sprue, W. W. Oliver, Brooklyn (*Journal A. M. A.*, Jan. 3, 1920), reports his laboratory findings. The patient was a man recently invalided home from Porto Rico, and the case is therefore of etiologic interest. Stool cultures were made and a yeast organism was recovered, corresponding in the main to the *Monilia psilosis* of Ashford. It was isolated, also, from the tongue, sputum and a tooth abscess. Intraperitoneal injection of a guinea-pig killed the animal in seven days, and the yeast was recovered from its liver and gallbladder, mixed with *Staphylococcus aureus*. The results are reported because comparatively few such studies of sprue have been made in temperate climates heretofore. The article is called a preliminary report and, therefore, the publication of further results may be expected.

DIPHTHERIA STAIN.

A description of a new stain for diphtheria bacilli is given by Henry Albert, Iowa City (*Journal A. M. A.*, Jan. 3, 1920). He has tried, he says, practically every stain heretofore described but has found none so satisfactory as this. He purposes to review critically the other stains before long in the *American Journal of Public Health*. In the stain here described, two solutions are used:

SOLUTION 1.

Toluidin blue	0.15 gm.
Acetic acid (glacial)	1.00 c.c.
Alcohol (95 per cent)	2.00 c.c.
Water (distilled)	100.00 c.c.

Solution 2 is the same as the iodin solution used in the Gram stain:

Iodin	1 gm.
Potassium iodid	2 gm.
Water (distilled)	300 c.c.

Smears made in the usual manner on slides and fixed by heat are stained with the first solution for five minutes. The stain is then drained off without washing and the iodin solution applied for one minute then briefly washed with water and dried, preferably with filter paper, and is ready for examination. The toluidin blue should stain the granules well. If the staining is done in staining dishes, the iodin solution should be replaced with a fresh supply daily, since a precipitation follows the introduction of the toluidin blue stain carried over on the slide. The granules of the diphtheria bacilli are stained black in marked contrast to other elements in the microscopic field. The bars of the bacilli take a color varying from dark green to black; and the intermediate portions, as well as other bacteria, take a light green. The granules of diphtheria bacilli stand out much more prominently than when stained with Loeffler's methylene blue and other stains commonly used. The bars stain with varying intensity, but are very easily recognized, in this respect; better than in the Neisser's stain. The advantages claimed for this method are the sharp standing out of the granules, the possible diagnosis in young cultures, and equally good recognition by daylight or by artificial light, as well as the more uniformly good results.

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Thromboplastin Solution (Armour) is a specific hemostatic and is made from the brain substance of Kosher killed cattle. This brain tissue of cattle killed according to Mosaic law is uninjured and by the Armour process this "principle" which causes coagulation is extracted and supplied to the medical profession in standardized and sterilized form.

Thromboplastin Solution (Armour) is useful in the treatment of hemorrhage especially that from oozing surface, scar tissue and the nose and throat.

25 c. c. vials, in dated packages.

Pituitary Liquid (Armour) is the most trustworthy solution of the Posterior Pituitary Substance. It is free from preservatives and is standardized physiologically by the Roth method. ½ c. c. and 1 c. c. ampoules.

Thyroids (Armour) runs uniformly 0.2 per cent organic iodin in Thyroid combination. Thyroid Tablets (Armour) ¼, ½, 1 and 2 grain. When Thyroids is indicated specify **Armour's**.

We offer all the endocrine gland preparations in powder and tablets. All drying of the glands is done in vacuum ovens at a low temperature. This insures uninjured therapeutic value.

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BOOK REVIEWS

THE SURGICAL CLINICS OF CHICAGO. Volume III, Number 6 (December, 1919). Octavo of 215 pages, 63 illustrations and complete index to volume 3. W. B. Saunders Company, Philadelphia and London, 1919. Published bi-monthly. Price, per year: paper, $10.00; cloth, $14.00.

This number contains 27 articles with 63 illustrations, representing the work of 22 Chicago surgeons. Most of the subjects discussed are those met with in the every day work of any active general surgeon. The subjects are so presented that the reader's time is not wasted by unnecessary details and long histories. The number is full of valuable suggestions in operative technic. These Clinics should appeal to every general surgeon.

C. A. E.

QUARTERLY MEDICAL CLINICS. A Series of Constructive Clinical Demonstrations and Lectures by Frank Smithies, M. D., at Augustana Hospital, Chicago. Vol. 1, No. 2. Published by Medicine & Surgery Publishing Co., Metropolitan Building, St. Louis. Price, $1.50.

The second number of Dr. Smithies' Quarterly Medical Clinics maintains the high standard set by the first volume. In fact, to our mind it is more interesting. In the present volume are thirteen case reports covering as many different diseases. The story of the man from the South who had a mass in the left side is as entertaining as a novel and is a model of deductive reasoning as applied to diagnosis.

We have no hesitancy in saying that this is the most valuable method of presentation of cases which we have seen. We shall look forward with pleasurable anticipation to the appearance of the next volume.

L. M. W.

INTERNATIONAL CLINICS. A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners by leading members of the medical profession throughout the world, edited by H. R. M. Landis, M. D., Philadelphia, U. S. A., and others. Volume IV. Twenty-ninth series, 1919. J. B. Lippincott Company, Philadelphia and London, 1919.

This volume of the International Clinics covers a wide range of subjects.

There are six broad divisions into Clinics, Medicine, Obstetrics, Neurology, Paediatrics, and Surgery. Twenty-two authors are represented. The "Clinics" is fully up to its usual high standard and can be recommended for a place on the doctor's book shelf.

L. M. W.

"Watch your Step" is a fine slogan to be observed in buying shoes, says the United States Public Health Service. Get them large enough, built on sensible lines and most of your corns and bunions will disappear.

BEDSIDE ROENTGENOGRAPHY.

Howard Curl, Madison, Wis. (*Journal A. M. A.*, Jan. 3, 1920), describes an apparatus so arranged as conveniently to shift the tubes for stereoscopic plates in bedside roentgenography. He figures the tubestand, with a horizontal displacement of several inches, a means for obtaining the regulation 6 cm. shift for stereoscopic plates, and a device for holding the tube at any desired angle while making the shift. With the aid of a plate changing tunnel, also figured, stereoscopic plates of any part of the body may be made at the bedside with a minimum of discomfort to the patient.

AND THERE YOU ARE!

There was once a doctor who enjoyed great repute in his community because he never sent a bill until the patient asked for it. He was generally loved throughout the community. When he died his wife sold the household goods to pay the undertaker whose bill arrived simultaneously with the coffin.—*The Madison County Doctor.*

HUMAN NATURE.

"I knew a feller once that had
The yeller jaunders awful bad, and
Each and every one he'd meet, would stop and
Give him some receet for eurin' of them.
But, he'd say, He kinder guessed they'd go away,
Without no medicine, and boast
That he'd get well without one dost.
And so he kept a yellering on, and they
Predictin' that he'd die some day
Before he knowed it. Tuk his bed,
The feller did, and lost his head,
And wandered in his mind a spell,
And rallied and at last got well.
But every one that said he'd die
Went back on him eternally."

—*James Whitcomb Riley.*

JUST AS GOOD AS EVER, TOO.

An old physician was noted for his brusque manner and old-fashioned methods. A lady called him in to treat her baby, who was slightly ailing. The doctor prescribed castor oil.

"But, doctor," protested the young mother, "castor oil is such an old-fashioned remedy."

"Madam," replied the doctor, "babies are old-fashioned things."—*London Opinion.*

"The Scotch," said Secretary Wilson of the department of agriculture, "are certainly a witty people. Now, looking about saw no children, but only grown men and women. He wondered at this and finally, meeting a weazened old man in the street, inquired, 'How often are children born in this town?' "

" 'Only once,' the man replied, as he proceeded on his way."—*Therapeutic Record.*

The Wisconsin Medical Journal

Volume XVIII MILWAUKEE, MARCH, 1920 Number 10

ORIGINAL ARTICLES

A PLEA FOR A BROADER CONCEPTION OF PREVENTIVE MEDICINE.*

BY ARTHUR J. PATEK, A. B., M. D.,

MILWAUKEE.

In the light of modern experience and present day necessities, Preventive Medicine assumes a new aspect. But a brief space of years past this term took cognizance of, and concerned itself with, contagious diseases only. How circumscribed that view then! How expanded our horizon now, with social diseases, economic conditions, questions of nutrition, housing problems, occupational hazards —all these and many more grouped under the caption "Preventive Medicine"—classified, studied, and in a measure treated.

We have, in the past, given too much thought to the correction of results, rather than the causes—immediate or indirect—of those results. Preventive Medicine should never deal with the former—its mission has failed utterly when it is relegated to act in that field alone.

A broad conception of Preventive Medicine embraces many phases of life, many activities which we have hitherto not felt inclined to give serious thought, acknowledgment of whose obligation upon us—though tardy—cannot be shirked. If we, assembled here, be—as we like to claim—representatives of the most altruistic profession, then the present period should see a reconstruction of recognized, remediable defects that abound, and are proving the ball and chain of the race. We, the medical profession, should lead, not be driven into—this movement.

"It has been estimated that over 600,000 people die each year in the U. S. from preventable disease; that at least half of the 3,000,000 or more sick beds constantly kept filled in this country are unnecessary; that the financial loss from earnings cut off by preventable disease and premature death amounts to $1,500,000 annually; and that over 15 years are lost to the average life through the lack of application of knowledge which already exists, but which simply has not been disseminated and applied." (Life Extension Institute Circular.)

Facts such as these have a compelling force—they stand out as indictments that challenge our intelligence, our courage, our national character and conscience.

"Human vitality depends upon two primary conditions, heredity and hygiene, or conditions preceding birth and conditions during life. In other words, vitality is partly inherited and partly acquired." (Report on National vitality.) Inherited vitality is controllable by the study and application of the science of eugenics. "By eugenics is not meant any scheme of general governmental interference with marriage, but the gradual establishment in public opinion of fundamental standards." (Report on National Vitality.) Thus it is intended to prevent marriages that will promote degeneration, and encourage marriage among the healthy.

Acquired vitality depends upon, and is influenced by, extraneous and controllable happenings —such as infections, poisons, mental strain, physical strain, mental inactivity, physical inactivity, food excess, food deficiency—all inequalities that have a baneful determination upon the normal bodily functions.

Let us grant that eugenics or predetermination of the physical state, does play a small part in our efforts for the betterment of the race, if only through concern given in the prenatal period. What later care do we exercise in furtherance of the obligation that rests upon us? Natal care occupies a conspicuous place. The milk supply, (granting its efficiency) reduces the danger of structural changes, of errors of metabolism, and

*Read before the Medical Section, State Medical Society of Wisconsin, Milwaukee, Oct. 2, 1919.

of tuberculosis developing then or in early adolescence. Infant welfare lends a helping hand; and medical school inspection follows.

But the public regard of the growing child soon wanes, and interest, once centered in the infant, is present in the inverse ratio to the child's development—it progresses downward, soon being entirely effaced as the youth marches boldly on to early manhood. The paternalism that early characterizes the community's concern, ends, and the further physical, moral, and educational safeguards become purely personal, and selfish, i. e., circumscribed. The public acts as does the robin when, after feeding its naked young, then teaching the clothed fledgling the use of its wings, it unkindly beaks and bucks it off the nest, knowing that in very self-preservation it must fly. Both the bird and the human animal have a sense of self-preservation—the bird by instinct, the human by intelligence; but differ in that the bird uses its instinct as a guide. the human does not sufficiently use his intelligence.

Directing a properly regulated mode of life to those incapable of judging their own ability, selecting fit employment for those physically handicapped, and advising occupations commensurate with the mental and physical capacity of individuals, are other functions too little regarded by us. There are too many instances of misfits as to jobs and the holders of them. A more careful selection made as to individual adaptability, rather than loose inclination, would avoid heartache, disappointment, total failure, and ofttimes—tragedy.

And while this may be taking us beyond the province of medicine, I cannot but believe that by virtue of his broad sympathy, his study and knowledge gained by personal contact, his wide information, the physician should join with the family council in deliberating in such emergencies.

There is none but can recall the cases of individuals who, because of ill-advised selection of employment, became completely incapacitated, and so developed into charges upon themselves, their families, or the community. True, many large industrial plants have adopted, as a first preventive measure against occupational injury and disease, the plan of submitting applicants for work to a thorough physical examination. So far so good; they have safeguarded themselves admirably by weeding out the unfit; but—having selected the wheat, what becomes of the chaff? Who is there to advise with them the character of employment to which they may be assigned with impunity, with due regard to their physical well-being, their aptitude for the particular employment in prospect or selected, and their capacity to acceptably fill such an engagement? The human chaff should be made an economic force. Then why not attempt a conservation of human energy by intelligent direction, rather than permit it to become a waste product by unwise misdirection, or worse still, a wasted product by a total and sinful apathy?

What is said of a selection of employment that is in accord with the individual's temperament and mental endowment, holds good as to physical capacity as well. It is not fair to permit a young man whose heart valves have become deformed through a rheumatic infection, to do heavy labor; nor is it right to put a pale youth in an artificially lighted office; nor should the florid, plethoric individual be a continuous desk grind. These are inequalities that are harmful, physically and mentally, and reduce each man's right to the acquisition of happiness through labor, and to the enjoyment of a reasonable longevity. In other words, careers should be selected so as to be consistent with individual aptitude, and commensurate with the known measure of physical endurance; none but extreme degrees of mental and physical incapacity are unable to find and fill a niche in the big industrial scheme.

Lest you find this a Utopian dream, let me assure you that in a country, now an outcast among nations, such a method of discriminating selection has been in existence for a decade or two. In consequence, unemployment in Imperial Germany was, before the war, reduced to a minimum —far below that of any other country on the globe. Paternalism that is not of the fawning sentimental type, that has not the malodorousness of being patronizing, preserves self respect, or develops it; when sanely directed it is elevating, not degrading; it suggests a way out, and does not create a bar to initiative.

The subject of Cancer may also quite appropriately be taken as a question in point, for we are not yet really alive to the necessity and possibility of restricting the ravages of this disease within essential limits. The mortality rate from cancer in the United States registration area (comprising 10 states), per 100,000 population,

increased from 63 in 1900, to 77 in 1912. In New York State the cancer rate in 1913 was double that of 25 years previously. Other statistics could be amassed that are equally appalling. And, making due allowance for an increase due to better means of accurate diagnosis, there still remains the undisputed and established fact that cancer is one of the half dozen principal causes of death, that in very many instances it is first a local disease, that there is no known cure save surgery, that surgery in competent hands—if done early—means a large percentage of cures, and that if long delayed through nonrecognition the present appalling mortality rate must and will continue. A single surgeon reports 65 cases: of these there were 35 men who waited an average of 12.2 months and thirty women who waited an average of 11.9 months after discovery of a tumor or suspicious symptoms, before consulting a physician. The annual death toll in the United States is now well over 75,000, and, largely as a result of ignorance, is fatal in over 90 per cent of cases.

Action ought to be taken by physicians in conjunction with various social agencies, to disseminate information that is available, bearing on facts pertaining to the subject of cancer as it actually presents itself. Scientific data, for lay minds, should be gathered; above all, we physicians must be educated to a recognition of what actually confronts us, and—convinced of the necessity—should preach the importance of early recognition and adequate surgery. Realizing this as a public problem, the American Society for the Control of Cancer is prepared to circularize with helpful information, wherever a desire for such is manifested.

We were slow to talk tuberculosis, but were whipped into line largely by lay agencies. What pertains to cancer has often been said of tuberculosis, and is noted merely to emphasize the analogy. The anti-tuberculosis campaign aroused the public so acutely that it developed phthisiophobia—a disease more benevolent than malignant. Similarly Cancerophobia may be expected to some day prove a wholesome addition to modern-made diseases. "When cancer patients come to the operating room as promptly and willingly as sufferers from appendicitis, the cancer death rate will fall before this new and active phase of public intelligence."

The subject of Venereal Diseases is being so actively followed up by governmental agencies, that I shall not give it consideration here.

No less disastrous than cancer is that group of diseases classed as Cardio-Arterio-Renal. Here again do we rest under the indictment of having as yet made no effort at early recognition; as a result, these diseases continue to exact their yearly toll.

Sir James MacKenzie, the foremost authority of the day in his special field, has recently declared that, after having devoted half a century to the treatment of disease of the heart, he now purposed to withdraw from this branch of practice. Long experience had taught him the poverty of his own efforts to effectively treat arteriosclerosis, or to retard the progress of this unrelenting disease. Therefore, he planned to devote the balance of his life to a means of combatting its cause by studying the youth, guiding his early manhood, and correcting whatsoever presented itself that could—even remotely—be considered the first step in the development of arterial disease. This demands observation of the young at a time of their greatest activity; at a period when the foundation is being laid for years of strain and effort, physical and mental; when thought of the seriousness of adult life takes form, business enterprises are undertaken, occupations chosen, and real work begins.

While MacKenzie's efforts will be largely devoted to the detection of early heart, blood vessel and kidney changes, such an inquiry by its very nature cannot be confined to narrow limits, because it is focussed upon the keystone that dominates the entire arch, and thus embraces the whole physical structure in its scope. At the first evidence of an abnormality, its cause—whether environmental, hereditary, acquired illness, occupational, nutritional, or what not—would be sought, and its remedy effected, or attempted.

MacKenzie becomes the prominent exponent of a plea for the early detection of disease, which can be solved in but one way—viz.—by the systematic, and periodically conducted examinations of all adolescents—this observation to be continued through life. A former president of our State Medical Society, Dr. Dearholt, has frequently dwelt on this as a phase of medical economics that should find us responsive, and Prof. Fisher, in his governmental report on National Vitality, makes an eloquent analysis that well repays a painstaking study. Dearholt very tritely asks:

ventive medicine, both technical and popular; the increased attention to the subject of health in the public press; the spread of athletics and the physical training movement; the growth of the custom among city people to organize country clubs, and the increasing popularity of golf and similar recreations; the constant agitation and legislation in reference to child labor, slaughterhouses, impure foods, milk supply, and water contamination; the increased vigilance of health boards; the growth of sick benefit associations and insurance among working men; the efforts toward improving the sanitary surroundings and hours of labor of workmen, and especially of women and children; and, finally the movement to secure a national organization of health at Washington." (Report on National Vitality.)

Our greatest hope for the preservation of individual and national vitality, rests in the successful employment of preventive measures whose aim shall be early recognition of disease; better still, the anticipation of disease by periodic inspection of the healthy.

Early recognition of disease requires the consent of patient as well as physician, and while the medical profession may wish to unburden itself of responsibility, the fault for this sedulous disregard must in large measure be laid at its doors—for it is in great part due to a fundamental error of our own. Our whole pedagogic system of teaching medicine is wrong. The human body is considered a pathologic museum rather than a physiologic storehouse; health movements and medico-sociologic agencies are unknown; sickness only is noted, health is ignored; the student is taught to observe the abnormal, but he is not made keenly alive to symptoms that are an expression of the normal. And therefore, the young practitioner must flounder about for years in a maze of ignorance and doubt, until finally, after many painful experiences, he begins to solve the problem which, in great part, should have been his before graduation—viz.—that only a fraction of that to which his attention is attracted by those seeking his help, is pathologic, and a large share physiologic—that is, an expression of the essentially normal. Then only does he begin to properly evaluate signs and symptoms, and become a keen analyst. And, too late—it dawns upon him that he could and should have foreseen many of the ills that evolved before his eyes.

A vast governmental machinery made it possible to chart the physical condition of every man of fighting age in this country. Were no other data available, the information gathered by the government in the draft examinations is a telling argument. "Notwithstanding the fact that many men with rather serious impairments susceptible to treatment in the reconstruction hospitals and at the cantonments were accepted, more than one-third of our men between the ages, 20-31, were found physically unfit for war." (Life Ext. Institute Circular.) And without doubt, most examiners will testify that the majority of these rejects were unaware of their disability.

What better example of the truth of this indictment than our country's need of seeking the desired quota of eligibles for army service amongst those in the fourth decade of life? Two obvious deductions can be made from these bald facts: first, that too many men in the prime of life suffer from disabilities that are preventable; and second, a disproportionately large number are unaware of their disability. A judicious survey of the data now in the government's possession would lay a foundation for the study of preventive medicine on a vast scale, and be of enduring value to the nation.

The elaboration of a scheme of Preventive Medicine that exhibits broad vision, has vast possibilities: it will lessen disease, establish greater individual economic independence, promote contentment; but happiest solution of all, there must follow a material postponement of the period of onset of premature senility. Than this—there can be no better creed.

COMMUNICABLE DISEASES IN THE ARMY.*

BY VICTOR C. VAUGHAN, M. D.,

ANN ARBOR, MICHIGAN.

I shall talk on certain data gained by study of the communicable diseases in the army. My small part in the army was to act as Chief of the Section on Communicable Diseases, and my purpose this morning is to gather from these studies some of the most important points and present them to you.

*Read at the Annual Assembly of the Tri-State District Medical Society, Rockford, Illinois, September 1, 2, 3, 4, 1919.

"What are your health assets and liabilities and how do your body accounts balance? Did you ever ask yourself that question? You would not think of running your business without keeping some accounts. Why run your body without getting at least a yearly balance to show if there are any losses or gains?

"If you have an automobile, bicycle, plow or any other machine, you look it over once in a while to see whether there are any parts that are wearing out or needing repair. If you have a fine horse, pig, cow or even a hen, you wouldn't think of neglecting it. You give it regular inspection to see if it is keeping up to the standard. Do you have your body inspected at regular intervals to see if there are any leaks or breaks in the human machine? Which is worth more, your automobile, your cow, or your body?"

If further analogy were needed, let me recall to you your annual or semi-annual visits to the dentist, for inspection and reassurance. If a diseased tooth be found, he proceeds accordingly; if you are told that all's well within, you gratefully acknowledge the debt incurred, and proceed rejoicing, and promise yourself a repetition in six or twelve months.

Are we less afraid of our hearts and arteries than of our teeth? True, teeth ache when sick, sometimes; hearts do not, usually; and therefore we are warned relatively more often of early decay or disease of teeth than decay of the heart. But, in our blindness, we persist in making pilgrimages to the tooth specialist without warrant, —that is—when we are unaware of disease and fear the result of possible neglect, but do not dream of the desirability—nay necessity—of visiting the heart specialist for his opinion as to the integrity of that organ and its appendages. Is there not something incongruous in this?

What is more distressing than to find a young man of 25 or 30 with very palpable radials, and an abnormally high blood pressure? This, perhaps, is avoidable. And if age is to be measured in terms of arteries, then in the lexicon of this young man's life there is no such period as youth; he has been snatched from early adolescence and quickly launched into middle life—a tragedy indeed.

Where is there a greater field for useful work than in the prevention of prematurity of disease incident to middle and later life—an inquiry into means of avoiding that human tragedy—premature senility?

It may be asked—is this a practical, or a practicable undertaking? Let this be the answer: Three years ago you and I would have thought it an impossible feat to examine with scrupulous minuteness several million young men within a limited period; yet it was done, and well done. Is any further commentary needed?

But who is to be entrusted with such a vast undertaking? Not the specialist, save as consultant in unusual instances. Whenever possible, this work should remain with the regular medical attendant who is familiar with the patient's family history and associated circumstances, and who—if he equip himself adequately, and conscientiously pursue this line of inquiry, can and will become a force of inestimable value in and to his community.

This entire problem, in the final analysis, becomes an economic one, a medico-sociologic study. The awakening of the medical profession to its value in furthering human vitality has been slow, and it has remained for a layman and a lay organization to give it greatest publicity. Stirred largely by the work of Prof. Irving Fisher, there has been organized the Life Extension Institute. This institution has a large corps of competent executives and ramifications in many large cities; its object is to encourage routine physical examinations for its subscribers, and places expert service at their disposal, and at a moderate fee. Its purpose—to this extent—is preventive; but in addition, through literature designed to cover individual cases, and prepared by experts, it essays to be helpful by indicating a hygienic mode of living, in no manner going counter to recognized scientific medical practice. It aims to be a constructive force, and if rightly conducted—ought to establish itself firmly as a national asset, a public benefaction.

In emphasizing our dilatoriness in giving consideration to these weighty problems, I would not deny the evidence of a world-wide awakening to their importance, nor fail in a recognition of the practical results achieved by the numerous agencies that are at work, such as: "the many societies and congresses to prevent and control tuberculosis, insanity, alcoholism, social diseases and vice, and infant mortality; the growth of preventive sanatoria, dispensaries, and similar institutions; the establishment of numerous journals of pre-

Before doing this, however, there are certain introductory remarks that I should like to make.

In early December, 1917, with General Gorgas, Colonel Welsh and others, I visited most of the camps in this country. It was quite evident that there was something wrong in the organization. The Base Hospital was not a part of the Division. The Division Surgeon had but little to do with the Base Hospital and the Base Hospital had but little to do with the Division Surgeon. Patients would be sent from the organizations to the Base Hospitals and the physicians sending them lost track of them entirely. At the same time, the officers at the Base Hospitals seldom went back to inquire as to the conditions under which the sick men lived before they were sent to the Hospitals. It was decided, therefore, to put into each camp a man who should trace the communicable diseases and whom we proposed to call the camp epidemiologist. I was authorized by General Gorgas to find an epidemiologist for each camp. I want to say that I had great difficulty in doing so. Few medical men know anything about epidemiology. They don't even know the elements of it; they don't even know the A B C's of epidemiology; for a very good reason they never studied it nor practiced it. It was rare indeed to find a medical man who could compute annual death rates, and I hope the medical men will take to heart my statement that the best epidemiologists that we found were non-medical men. Such men as Quiggle, Sedgewick, Phelps, Soper, know epidemiology, and not one of them is a medical man.

In the second place, I want to say that the Division surgeons, as a rule, knew just as little about epidemiology as the reserve officers, and, as a rule, a great deal less.

In one of the camps they were certainly in need of an epidemiologist. I found a man, who although possessing the M. D. degree, had really not practiced medicine but who had served as a health officer in one of the large cities. I sent him to this camp as epidemiologist. Failing to get any report from him for some weeks, I went to the camp. I went to the Division officer or Division surgeon and I said, "What have you done with the epidemiologist?" He said, "Oh, that man?"

"Yes, he is a pretty nice fellow, don't you think?"

"You bet he is!"

"Sure, I wouldn't have sent any other kind." And then I said, "Where is he?"

"I assigned him the duty of taking care of the officers' families in the city fourteen miles from the camp." (Laughter) That was the man who was to trace infectious diseases in the camp.

My next introductory remark will be along this line. Our method of mobilization was splendidly adapted to gathering together all the infectious diseases in the country. You could not have gone at it in a better way. Please note that I am not criticizing anybody. We pointed out early that gathering up millions of men from every city, town, village, cross-roads and farm in this country and bringing them into great camps, with every infectious disease in the country, it couldn't be otherwise. We recommended that the men in this county, for instance, be gotten together here in this county seat, be held under quarantine for fourteen days, be cleaned and put in uniform here, be inspected daily and sent to the nearest camp or the camp decided upon, not in troop trains but in ordinary trains, so as to avoid great collections of people.

What was done? The drafted men in the various states were collected at one or two places in the state. They were held there until a certain number accumulated, sometimes days, sometimes weeks, in their ordinary clothing that they had worn in their work at home, some of them clean, some of them moderately clean, some of them filthy, and then they were held at that place until a sufficient number was gathered to fill a train, and then a troop train carried them away to the camp.

In the Spring of 1918, (and I am giving you these facts simply as illustrative) some three or four thousand drafted negroes in Alabama were assembled at Montgomery. Some of them were held there for many days. They came from all parts of the state of Alabama. You can imagine how they were clothed. They wore the clothes that they had been working in on farms or in the cities. They were herded together at Montgomery, Alabama, and put on three troop trains and sent to Camp Custer, Michigan. It took about three days to get them there. When they reached Camp Custer, eighty cases of pneumonia were taken directly from the train to the Base Hospital, and during the next month those three or four thousand negroes not only furnished the largest proportion of cases of pneumonia to the Hospital but

the germ that they brought with them completely changed the character of the pneumonia, rendering it more deadly, prevailing throughout the whole camp.

I am mentioning these facts in order that you may understand the difficulties that the army medical officers had to contend with. To control the measles at Camp Wheeler, with every train bringing in from one to six cases of this disease already developed and every man on the train exposed to it before he got there, is a very different thing from controlling the measles in a comparatively stable population such as in the city of Rockford, for instance. It is very different!

Understand that I am not finding fault with anybody. When I went to an old line officer and talked about these things he recognized the danger, but he said, "My dear doctor, the purpose of this mobilization is not to make a demonstration in preventive medicine." (Laughter) True. "However desirable that may be, it is to fit men to be soldiers just as quickly as possible," he said. You couldn't question that, could you?

Every one knows that you can't make an army over night, that it takes time, and the hurried way in which we went into this war cost us hundreds, thousands, of lives. There were many deaths due to preventable illness. That is one argument.

Let us point out some of the things that we have learned. In the first place, in regard to typhoid fever, vaccination for typhoid fever has greatly decreased this disease in the army. Vaccination does not give absolute protection. Because a man receives a certain number of typhoid, paratyphoid "A" and "B" germs is no proof that he is vaccinated, is it? It isn't every man whose arm you scratch with typhoid vaccine who is vaccinated. It is only the man on whom it takes, as we say, who is vaccinated.

We speak of eberthian typhoid fever, of paratyphoid "A", of paratyphoid "B", and over and above these there are large numbers of cases which we designate clinically typhoid fever. We have no other name, so far as I know, for this last mentioned group. The French use an apparently unsatisfactory name. It is febrile gastric embarrassment. These cases of clinical typhoid fever which are not eberthian, not paratyphoid "A" or "B", differ clinically in only one constant particular from the other groups of typhoid fever. Rose spots have never been found in the febrile gastric fever. The blood has always been found to be sterile. No micro-organisms have ever been obtained.

Contrary to the generally stated opinion, typhoid fever in the vaccinated, the eberthian typhoid fever as well as paratyphoid "A" and paratyphoid "B", differ in no way, considering a large number of cases, clinically or in mortality from typhoid fever in the unvaccinated. There have been statements made that typhoid fever among the vaccinated, when it does occur, is a mild form with a lower death rate. There were nearly 1,000 cases of typhoid fever (I am giving this roughly) in the American Expeditionary Forces, the clinical study of which was entrusted to my son, the late Victor C. Vaughan, Jr. No one else has studied so large a group of typhoids among the vaccinated. His paper will be published soon, but I can say now that he shows quite conclusively, contrary to his own belief, as I happen to know, before he collected the data, that typhoid fever among the vaccinated differs in no way from typhoid fever among the unvaccinated. Of course, as I hinted a moment ago, you cannot tell whether the vaccination took in those people or not.

There is one other point I want to make here. That is with regard to the effect of vaccines, and this applies not only to typhoid vaccine but to other vaccines as well. The effect of vaccines is estimated in most laboratories by the agglutination test—absolutely worthless so far as showing the degree of infection. As Vidal pointed out, agglutination is a phenomenon of infection and not of immunity. The man whose blood agglutinates with typhoid bacilla is not immune to typhoid fever but he has typhoid fever. Six months later, his blood may not agglutinate with typhoid bacilla and that man is not infected but he is immune to typhoid fever. It is absolutely wrong to estimate or to supposedly determine questions of immunity by agglutination reaction, and the same is true of complement fixation tests.

All the efforts made to control measles, to blot out measles in our camps, failed. Please do not misunderstand me. Local quarantine, isolation, and so forth, delayed the spread of measles and was, therefore, as I hope to point out in a moment, beneficial, but when measles got into a camp, it went through that camp until it reached every non-immune individual; then it burned itself out. Measles was much more common, quite naturally, among the rural troops than it was

among urban troops. I do not need to explain that. For the same reason exactly, measles was much more common among Southern troops than among Northern troops. It is because the South is more rural than the North in the respect of population that that is true.

In the study of communicable diseases in the army in the fall and winter of 1917-18, we had an opportunity never before presented and not likely to occur again, of studying the communicable diseases among men from different sections of the country. Camp Grant was filled with troops from certain states. Camp Wheeler was the same way and so were the other camps.

It was evident, in studying the communicable diseases at that time, that Southern troops were more widely infected and had a higher mortality than Northern troops. If you take a map of the United States, (I am sorry I did not bring one with me but you can take my word for it and picture it in your minds) and take the camps in the places where they really were, you will find the best camps and the worst camps from a health point of view, in close proximity. For instance, the camp during the winter of 1917-18 that had the lowest death rate of any camp in the United States was Camp Logan, Houston, Texas. It was composed of the Illinois National Guard. It had a death rate lower, so far as I can ascertain, than ever prevailed in a group of men that size assembled for that length of time, a death rate one-half of what it was in the same aged group of men who stayed at home in Chicago, a health record which I do not believe has ever been attained in the history of any other war.

Within a short distance of Houston, Texas, there was Camp Pike, Arkansas, one of the worst camps in the United States.

Now I take a map of the United States, and instead of putting the camps where they are, I put the camps in the center of the population from which the soldiers came. Instead of putting Camp Logan in Texas, I put it in Wisconsin, and so on. Instead of putting Camp Hancock in Georgia, I put it in Pennsylvania. Instead of putting Camp Wadsworth in South Carolina, I put it in New Jersey. Then we have all the good camps in one part of the United States with two exceptions. That area of the United States would be included by lines drawn down the Atlantic Coast from Maine to the middle of Maryland, carried directly West to the Mississippi River and then North to the Western end of Lake Superior. Every camp that drew its soldiers from that region belonged to the best group of camps from a health standpoint, with two exceptions. Those exceptions were Camp Gordon in Georgia and Camp Lewis in Washington. It was intended that Camp Gordon should be a first-class camp and should be filled with the drafted men from Tennessee, Alabama and Georgia. However, these men were allowed to stay at Camp Gordon but a few weeks and were transferred to Camp Wheeler, and Camp Gordon was filled with troops from twenty-six different states, mostly Northern. At Camp Lewis, in Washington, the conditions are very similar to what they are in the section where the camps are located that are good.

Now this is a very important thing. Why should the soldiers, the drafted men, from this section of the country that I have mentioned suffer less when they assemble together than men from the South and the Southwest and even from Southern California? This has been a big problem. I have thought about it a great deal. My conclusion is rather an unpleasant one. It is an unsatisfactory one. Camp sanitation had nothing to do with it. There was no unsanitary camp in the United States. There was no camp in the United States that owed its illness to any appreciable extent to the lack of sanitation. Plenty of water supply, proper disposal of sewage and garbage, clean streets, abundance of sleeping quarters, good food, prevailed everywhere. There is no question of that. Conditions were so radically different from what they were in the Spanish-American War.

It seems to me that there is only one conclusion to reach, and that is that people who live in urban districts, in urban areas, in densely populated areas, have acquired a certain degree of increased resistance or immunity to the respiratory diseases which does not exist among those living in scattered rural communities.

That, I say, is a very unsatisfactory conclusion. If that conclusion be right, I hope somebody will get a better one. It is going to be a bigger job than we ever anticipated to get rid of the respiratory diseases. Stefansson, the Arctic explorer, who was in the Arctic region or along the Alaskan Coast at the time of the influenza epidemic, and who is a wonderfully intelligent man along medical lines for a layman, says that one-third of the Eskimos along the Alaskan Coast die within a few weeks from influenza. He put a question

to me in this way: "Suppose that there is an island in the Pacific Ocean inhabited by any number of people, we will say 100,000. Suppose that neither they nor their ancestors have ever had measles, pneumonia, influenza. Suppose that I should say to you, 'Go to that island and take with you all the money you want and all the public health knowledge that you can collect and carry and all the sanitary engineering that you want. Take ten years and put the people of that island on the very best living conditions that can be conceived of, and when you are ready I will introduce influenza, pneumonia, measles, in a hundred different places in that island. You are not to quarantine. How many lives have you saved by your improvement in the sanitary conditions?' Then he said, "Not one! Sanitation is going to carry you so far that you are going to have such diseases as typhoid fever and do a great deal of harm." Sanitation does much for other diseases, but it doesn't touch the respiratory diseases. In fact, the men at Camp Upton who came from the slums and the East side of New York City withstood the respiratory diseases better than the boys from Herkimer County.

Why is that? It means that there is only one answer and that is that they have lived in an atmosphere permeated by the exhalations of the lungs of all kinds of people for years and have acquired a certain amount of immunity.

We used to think that every disease has its specific cause. That is true in some instances. But if we study diseases clinically, or if we take a clinical classification of diseases, then in many instances we are wrong. I have already pointed out that we have clinical typhoid fever, eberthian bacillus, paratyphoid "A" and "B", and then a lot of different kinds of which we do not know the cause.

Before we went into this war, we were inclined to think that the pneumococcus was certainly the chief cause of pneumonia. If there is anything that these studies have demonstrated, it was the small part that Type 1 played, not only that, not all the types of pneumococcus, streptococcus, hemolytious and the non-hemolytious, and the staphylococcus, all caused pneumonia, or, as we should probably say now, the pneumonias. If we are going to classify them etiologically, we will have to say the pneumococcic pneumonias, the staphylococcic pneumonias, the streptococcic pneumonias and so on.

Any micro-organism which can grow and multiply in the lung may cause pneumonia. Whether the diagnostician will ever get to the point where he can tell which one of these germs causes the individual pneumonia that he has to deal with is another question.

As to influenza: The first camp that we have upon our list as visited by influenza was Camp Shelby at Hattiesburg, Mississippi. This is a rather unique study. Camp Shelby was occupied by the national drafted men from Kentucky, Indiana, and West Virginia. These men were assembled in the Fall of 1917, and in April, 1918, it was struck by a well marked epidemic of influenza. There were 26,000 soldiers at Camp Shelby when this first epidemic of influenza struck the Camp in April, 1918. There were about 2,000 sick enough to be put on the sick list and sent to the hospital or kept in quarters. From 24,000 to 26,000 men showed no evidence of having influenza at all. It was a mild epidemic. There were only six cases of pneumonia that occurred among the 2,000 that had influenza. We don't know whether it was due to the influenza that they had pneumonia or not. This was the only Division in the United States that remained at its original camp from the Fall of 1917 to the Fall of 1918, and in April, 1918, they had this epidemic of influenza. Recruits came in in the number of about 20,000. The Fall epidemic came, and the men who had lived through the epidemic of the Spring and had contracted influenza did not have it in the Fall. Those who did not have it in the Spring were just as immune to it as those who did have it. That is so plain that there can be no doubt about it.

Now what conclusion can you draw from that? There were other camps that had influenza in the Spring, but the soldiers from those camps went to Europe and consequently there was less influenza in the American Expeditionary Forces than there was in the raw troops at home. There is one thing that stands out very plainly. It is on nearly every page of our report. It is this: To recruit a large army such as we did within so short a time is to increase its death rate far more than any battle in which we were really engaged. In other words, the number of recruits that came into our Army increased our death rate more markedly than any battle in which our troops fought. The raw soldier dies; the seasoned soldier lives. What is the difference between the

raw soldier and the seasoned soldier? At Camp Lee, for instance, men who had been in the service less than one month made up nine and a fraction per cent of the total strength and furnished over thirty per cent of the deaths, while about forty-five per cent of the men there had been in the service six months or longer and furnished about ten per cent of the deaths. At all the camps where the death rate was high, it was among recent recruits.

There is so much evidence regarding that that it simply irresistibly compels any one to admit its truth. There is one explanation for that so far as I can see, and that is this: In becoming a seasoned soldier, in other words in becoming accustomed to that life, one becomes immunized or, if you please, acquires increased resistance to the respiratory diseases. This is not altogether new. I had not thought of it in so long that I had almost forgotten it. When we made our typhoid report in 1898, we went into that work believing as I think nearly everybody did believe at that time, that we would find the most typhoid fever among the weak and sickly, and certainly we thought we would find the highest death rate among that class. For that reason, we made a special study of the personal history of more than 6,000 men, some of them extending years back because they had been in the regular army, and we were simply overwhelmed with the fact that the men who acquired and died of typhoid fever were men who had never been on the sick report before and that men who had frequently been reported with diarrheas and gastric intestinal troubles did not have so large a per cent of typhoid fever. The mortality was highest among the most robust and the most vigorous and those who had the best health.

I thought then that we had made a discovery. Let me say to the younger men: When you think you have made a discovery don't go rummaging back through medical literature to find out if there is anything bearing on it, because if you do you are pretty sure to find that some one made the same observation possibly a good many centuries ago.

When we found out that typhoid killed the strongest and most robust, I foolishly went to look back into the literature. What did I find? I found the records of typhus fever in Ireland which stated that the death rate among the poor people who had typhus fever was one out of every twenty-three died. Out of the doctors and the priests and the nurses who took care of these people, one out of every three died. Then it is a historical fact that the English people were led to build hospitals for typhus fever and to improve their jail conditions largely because when a poor devil was brought out of a prison to be tried in a court room when typhus fever was prevalent all over Great Britain, within a few days the judge and the lawyers and the jurors all died of typhoid fever. (Laughter.)

A man who wrote about the epidemic in Ireland said the disease went through the community just as you or I would go through a flock of sheep picking out the lustiest and the healthiest and the best.

That is the way influenza did, too. I was at Camp Devens during the prevalence of influenza there. It is the same in all camps. The strong and vigorous and robust men are the ones who die from it. The men who had just come from the farms and the woods of Maine and the mountains of New Hampshire, the Berkshire Hills and those regions, were the men who died, in the number of from seventy to ninety a day at Devens.

It may seem strange to you, but I have come to the conclusion, subject to revision, of course, (all my conclusions are subject to revision) that influenza is a disease which has been constantly with us ever since the epidemic of '89 and probably just as much before that. There have been recrudescences of influenza. Of course the valuable and reliable statistics do not go back even to '89, but studying the statistics will show you the years when influenza has been a telling factor in the death rate. Influenza is always with us. Now and then it becomes an epidemic. What are the conditions under which that occurs? One of them is the assemblage of large numbers of susceptible people. Most of us have had the influenza. Most of us are immune. It is a disease much more common, in my opinion, than almost any other infectious disease unless it be measles.

How long one attack of influenza—it doesn't have to be an attack; one contact suffices—gives you immunity I cannot say. I am inclined to think it is not very long. At Camp Shelby it was certainly four months. It may be much longer than that, but when you get a large number of susceptible materials, meaning persons, together, then germs grow.

We had mild influenza in our camps; we had it in many of our cities in the Spring of 1918. The men who lived through the influenza epidemic, whether it was in camp or in city, escaped the influenza of a more virulent form in the Fall.

Of all the large camps in the United States, Sherman had the highest death rate. Three and two-tenths per cent of the total strength of Camp Sherman died within six weeks. I am not speaking of the number who had it, but that number died.

In the neighboring city of Columbus, Ohio, there was very little influenza relatively. The mortality was affected but slightly. In the Division which went from Camp Sherman across the seas, there was relatively little. Why? This is no isolated instance. I could mention a dozen like it, yet the mortality record of Columbus, Ohio, if taken the last year and run through, shows that they had influenza in the Spring of 1918, and doubled and trebled their death rate, but nobody paid any attention to it. It was not of so much importance at that time. Doubling the death rate from pneumonia seldom attracts attention, especially when it occurs in two or three sections with death rate running over two or three weeks. Therefore, they had relative immunity to the influenza of the Fall.

We had mild influenza. When you get men together—susceptible men—and crowd them, then the virulence of the germ is going to increase. Why? Because it is directly transferred from one person to another. It is planted in that second person in large numbers, and when it is on readily utilizable material it grows abundantly.

The French Poilus, during 1918, did not have any great death rate from influenza. In August, 1918, the French Government called for an assembly of its class of 1920. One camp was brought together, and within three weeks five per cent of them were dead with influenza. They stopped mobilizing for a time their class of 1920 to resume it later.

It isn't the density of the population that causes the increase of virulence; it is the density of the susceptible material.

All of this will be worth but little if we cannot use it. If we should ever have to assemble another army or for any reason bring a large number of people together, especially young people, we should go at it in a different manner. I argued against troop trains. Wherever troops were sent en masse in troop trains on long tiresome journeys, pneumonia, measles, influenza, some infectious disease, broke out and became highly fatal. So far as I have been able to ascertain, the highest death rate in any civilized community from influenza and pneumonia was on an American man-of-war that lay in the harbor of Rio de Janiero. It was filled entirely with recent recruits. It was an English ship or some foreign ship, (I am not sure that it was English) that brought in the infection and among the eleven or twelve hundred men on this American man-of-war, about five per cent died.

Of course we get figures from all over the world apparently. Certain half civilized or partly civilized people who have lived remote from the rest of the world have died in larger numbers. We have pretty authentic reports from Guam. Between four and five per cent of the entire population of that island died within three weeks of influenza.

Troop trains should be avoided. When recruits are called in they should not be herded together but should be distributed among the ranks of seasoned soldiers.

This is one of the reasons why I am so greatly hopeful that some form of universal military service will be required in order that we may get accustomed and used to being together and consequently become immunized, that is, that our young people may, to the respiratory diseases. In addition to this there are certain physiological adaptations of the body to immunity.

I thank you. (Applause.)

THE MEDICAL RESERVE CORPS AND THE CIVILIAN PRACTITIONER.*

BY WM. S. MIDDLETON, M. D.,
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MADISON.

A sweeping eulogy of the medical services of the United States Army in the World War, while a peculiarly gratifying form of mutual admiration, is scarcely in keeping with fact. No more can the unreasoning condemnation of the medical work in the recent emergency by some of our fellow practitioners find substantiation in the experience of the vast majority. Such wide divergence of opinion militates most acutely against a solution

*Read before the State Medical Society of Wisconsin, Oct. 3, 1919.

of the faults which undoubtedly existed in our medical system, both at home and abroad. A frank analysis of the conditions in the American Expeditionary Forces should not fail to stimulate constructive reorganization; whereas the invective and venom arising from casual, unorganized discussion tend to misunderstandings which no time can bridge. Silence and inactivity, on the other hand, at such a crucial moment assure a repetition of the mistakes of our past experience.

There is, unquestionably, general dissatisfaction on the part of Medical Reserve Corps officers with army conditions. However, a perusal of the medical history of all American wars reveals the existence of similar conditions at the conclusion of each. Several factors enter into the provocation of this attitude. Fundamentally, uprooting the established practitioner and transplanting him in new soil under a different environment are bound to lead to disquieting results. Furthermore, subjugation of individuality to the superior authority of military rank and not professional proficiency after years of independence of thought and action is bound to be particularly chafing to medical men as a group.

To convert a professional personnel of some twenty thousand civilian practitioners suddenly to the exigencies of war service, to adapt them to their individual and collective tasks from a medical and a physical standpoint and, ultimately, to bring the highest efficiency of medical service to the Army are problems of vast proportions. For instance, the question of the physical adaptation of the medical officer to his particular job led to grave misunderstandings and bitter disappointments. Yet, it is perfectly obvious that certain posts in the field must be filled by medical men in the pink of physical condition, with little regard to their professional qualifications. Although this circumstance may work to the disadvantage of the individual and exceptionally to the detriment of the service, still the obligation to the wounded man demands that younger officers be utilized in line service, some of whom possess qualifications which would better fit them for opportunities more attractive, medically, in base areas. In a general way, it may be stated that for advance area work the physical attributes should be paramount, whereas to the rear the medical qualifications should receive first consideration.

In our medical services as in virtually every branch of arms, America was unable or unwilling to take the experience of our Allies in three years of warfare as a foundation on which to develop our system of evacuation, hospitalization and sanitation. We must needs learn by bitter experience. Suffice it to remark, by way of illustration, that in the Summer of 1917 the British had perfected an ideal system of transportation and a wonderful plan of advance area hospitalization. Equally worthy of emulation, though not so thoroughly organized, was the French medical service.

Early in the Summer of 1917 and periodically throughout the war, medical officers were detached to the British Expeditionary Force for the avowed purpose of studying at first hand the medical operations of an army in the field. The information and experience gained by this group of men were invaluable, available and yet not used. Instead, official recognition of such service was withheld by the United States Army. The purblind stamp of disapproval was put on any suggestion emanating from such sources. Indeed, to intimate a British origin for an idea was to condemn it a priori. The camping experiences on the Mexican border too frequently outweighed the plans of procedure established on the battle fields of Europe. Probably the grossest error in this direction was the failure to utilize, in similar posts in the American Expeditionary Force, these officers trained in forward area work, schooled in the fields of Picardy and Flanders and entrusted with great responsibilities by our British Allies. With a few exceptions, this trained medical personnel languished in the base areas after recall to the American Army.

One of the most common complaints voiced against the medical service was the apparent failure to adapt the man to the post according to his qualifications. Such confusion is inevitable when a democracy goes, after the manner of democracies, suddenly and unpreparedly to war. A leading pediatrician in the East was an anaesthetist in France; a surgeon of prominence in the Middle West did battalion duty with the British; internists frequently filled the undignified but essential offices of "undertakers to the veterinarians"; a bacteriologist of international reputation left his laboratory for the arduous task of a field sanitary officer. Such instances might be multiplied ad infinitum. So it followed that in the process of fitting a square peg to a round hole, many corners were broken off. And while the frequency of the misfit was disproportionate and the wastage in medical service not inconsiderable, yet a certain

broadening influence to the individual jolted from the rut of civilian routine has made itself felt in the readjustment. Such individual growth, however, in no sense condones gross incoordination in the machinery of war.

Instructional courses along the specialized lines of war medicine were attempted in this country and in France. Not infrequently the individuals so trained were utilized in entirely divergent lines or, what is still more reprehensible, were transferred to still other courses to the exclusion of other officers who merited the opportunity. A more judicious selection of officers to give and to receive this instruction and a better system for the utilization of the product of such special schools would obviate this wastage.

Unfortunately, in our mushroom army, responsibility was inadequately distributed. The non-commissioned officer was too frequently a non-entity. Standing armies develop these men to the highest degree of efficiency and usefulness. Theirs is the important link between officers and privates, and their responsibilities make them outstanding figures to be respected and trusted. Medical officers of the grade of captain or lieutenant commonly directed the loading of ambulances or other similar mechanical work, which might better have been assigned to the "non-coms," and the badly needed assistance of the medical officers diverted to the heavily taxed wards. In many other instances, confidence reposed in properly trained non-commissioned officers will relieve medical men from purely executive work for more pressing medical functions. The much mooted question of paper work represents another phase of wastage of medical personnel. Clerical duties for medical officers scarcely bespeak a sane utilization of such material. An effort was made late in the war to relieve medical officers from transport, supply and adjutant duties by replacement with Sanitary Corps officers. While this measure released large numbers of medical officers for their professional duties, still those serving in clerical capacities was legion at the end of the war when the medical personnel was still greatly deficient in numbers. Such wastage of medical personnel should be made impossible in the next emergency.

Much has been said and written of the inadequacy of medical officers in France. It is generally understood that the medical duties in the Army vary greatly in kind and quantity. Weeks are spent in preparation for the anticipated casualties of an attack, which may be cleared in a few days or even hours. Again a long continued drive may tax human endurance for weeks on end. However, the periods, which try the patience and moral fibre of a medical man, are the intervals of inactivity in "peace warfare," between attacks. During the periods of activity, the front area, lines of evacuation and communication and the bases draining the same are congested to capacity to accommodate the back-pouring streams of wounded. The medical units appointed to cope with the task of caring for the wounded of the drive are taxed to the limit. Human endurance is strained almost to the breaking point and then comes the letup. —The fatigue, accumulated through the drive period, is doubly accentuated by the relaxation which follows. Then comes the realization that just off the lines of communication and widely spread through the base areas are many inactive medical units and officers. True, the Director of Professional Services did all in his power to relieve the stress by dispatching surgical teams to battle zones; but an apparent inflexibility of organization prevented expeditious mobilization of medical officers, to equalize the strain. A plastic organization of trained units and individuals into a mobile reserve supply from which detachments could be moved from point to point to meet the shifting strain, is essential, but useless if they be not provided with necessary equipment.

Beneath all these questions which common sense and cooperation could readily solve, an undercurrent of dissension is found in the lack of sympathy and common interests between the Regular Army Medical Corps and the Medical Reserve Corps. Lamentable as publicity may be, no improvement can attend silence on these points. It is beyond the province of this discourse to determine the responsibility for these conditions. Certainly merit does not reside entirely in any one group. Furthermore, sweeping statements have no place in such a discussion. Certain basic factors entered into the determination of a frequently ill-concealed friction between the two groups. Discrepancy in rank and authority probably played as large a part in this lack of coordination as any other factor. Without insinuating ulterior motives, from the standpoint of harmony the Army made a grievous error in granting so much rank to junior officers in the Regular Medical Corps. It is scarcely compatible with the best interests of the service or profession that medical graduates

of one year's standing should outrank leaders in the medical world. It would seem a tactical error beyond the wildest fancy. Yet without compromising qualifications, one year in the Regular Army Medical Corps sufficed to assure a majority, whereas, men of prominence in medicine in the Reserve Corps served as lieutenants and captains until July, 1918, and indeed in some cases to the cessation of hostilities. In many instances the responsibilities of the reserve officer far exceeded his rank. In other notable cases ranking reserve officers were subservient to regular officers of junior grade. No apparent effort was made to equally distribute rank and responsibility in the two groups.

A wide gap likewise arose from the vast difference in the clinical interests of the two groups. That the clinical responsibilities of a station should be so superseded by the now famous "paper work" was an inconceivable distortion to the average civilian practitioner in the service. It is not to be wondered, then, that this clerical work, while in a measure essential, should prove so irksome and so frequently the bone of contention between the regular and the reserve medical officer. The one form of paper work, which should have been most carefully maintained, the medical record card, too frequently gave no information of value. Standardization of records and notes would have rendered invaluable assistance to medical officers carrying out subsequent treatment. Furthermore, an adequate or even a skeleton form of follow-up would have stimulated better work, and better medical notes up the line, had our medical service seen fit to institute some such plan. Under existing conditions, it was virtually impossible even by strenuous personal effort, to obtain the subsequent records of more than 50 per cent of cases treated up the line. Some measures should be undertaken to render available after evacuation, particularly to divisional and corps medical units, records of the subsequent course of the patients treated by them. Not only would this plan act as a check, but it would maintain clinical interest at a pitch impossible, when all trace of the patient is lost with his evacuation. This neglect like all others is reflected in indifferent service to the sick and wounded.

To criticize destructively or to find the mote in one's neighbor's eyes would avail nothing. Should this paper evoke no constructive discussion, it will have failed of its object. The time is ripe to profit by the mistakes of our recent experience in the reorganization of the Medical Reserve Corps. This opportunity should be seized before the gradual drift into the ordinary routine of civil practice dims the faults and inadequacies of the line of service in which we are most interested. The responsibilities of the medical profession are not to be dismissed in bitter vituperation nor yet should we be lulled to inactivity by the siren of post-bellum rank and decorations.

Primarily, the plan of the General Staff for the future development of the Medical Reserve Corps should be made known and carefully studied. No scheme of organization should be subscribed to which does not incorporate adequate and proportionate authority for this branch of service. The busy practitioner would do well to assure himself of the peace times responsibility and obligations of a commission in the Reserve Corps. As a matter of preparedness, the Reserve Corps of the future must be more than a list of men ready to serve in case of war. The questions of peace time training and the duties of medical officers of the Reserve Corps in event of universal military training should seriously occupy our attention. The conscientious support of civilian practitioners will only be won by the assurance of adequate and serious attention to the Army's clinical needs. Furthermore, whatever other course may be pursued, an early effort must be made to assign each medical officer to his wartime function thereby permitting him to learn his job and in event of war seeing that he fills that place. Thus would much confusion, reduplication, inefficiency and dissatisfaction be eliminated.

The necessity for more stringent qualifications for the practice of medicine was repeatedly driven home by the experiences in the service. The problem of medical education as resolved into qualitative, not quantitative production in our medical schools, was never more forcibly answered than by the inequalities in preparation and qualifications of the men in the service. This circumstance held for both the Regular and the Reserve Medical Corps. Granted equal advantages of preliminary education and medical training, under the present system, the clinical advantages are so obviously with the civilian practitioner that an arrangement deferring clinical responsiblities to the reserve officer is only logical. A plea is registered, however, for a continuance of clinical contact in the Medical Corps of the Regular Army after admis-

sion to the service. Furthermore, elective courses of instruction in the various phases of war medicine should be given in our medical schools. By these several measures, a ground of mutual understanding may be built between the two branches of the medical service.

Another and more radical measure suggests itself as a remedy for the existing faults of the present system. Rank in the Medical Reserve Corps was a continual bone of contention. Leaders in the profession at times sold themselves and their influence for title. The smaller fry squabbled over the crumbs that fell from the table of the mighty. Discrimination against or failure to recommend certain officers in a medical unit for promotion invariably led to ill-feeling. Behind the division and especially in the base areas, rank has little if any function. Demilitarization of such units could be accomplished with a distinct gain in medical prestige and with the added advantage of a civilian hospital basis for medical and surgical practice. The spectacle of our distinguished fellow-practitioners in the masquerade without the functions of a soldier is a reproduction of so many Falstaffs. After all, the duties of a medical officer back of a division are purely medical and he is judged on this basis alone. Corps men attached to such units would be under the command of line officers.

With such a demilitarization, medical men serving to the rear of a division would become contract surgeons. Or for the sake of more compact organization, the whole rear area might be hospitalized by the Red Cross. On the basis of preparation, education and general qualifications, the medical members of this organization might be divided into four grades with appropriate salaries. The transportation could properly be handled by the Motor Transport Corps. One great advantage of such a system of hospitalization would be control by business men accustomed to manage large affairs and to sacrifice red-tape for efficiency. And further, many able medical men physically unfit for the Army would be rendered available for the less arduous duties of this proposed base area.

Honor is due the combined medical corps for their work in the World War. But great as were the achievements, still further opportunities were lost through faults of organization. The dignity of the profession and the future of the Army Medical service demand action. No panacea for the ills of the service has been advanced, but certain lines of thought have been suggested. Without further delay, plans for a reorganization of the Medical Reserve Corps should be drafted. Personal animosity and petty differences should be submerged for the common good, and a "get-together" council effected between representative regular army medical officers and responsible leaders in civilian practice for the furtherance of such alterations in the present system as may be deemed advisable.

DISCUSSION.

Dr. C. C. Lawhorn, Milwaukee: Mr. President and Gentlemen: As a Medical Reserve officer I certainly want to congratulate the writer of the paper, because he expresses the ideas that all Reserve Officers have regarding the Regular Army Officers and the treatment that we had to put up with from the Regular Army organization. This is the first paper of its kind that I have seen, and I think that every Reserve Officer should thank the writer for his paper. I believe that there should be more of such papers, and that more men who are familiar with the subject should bring the matter to the attention of the proper authorities in Washington, so that in case of another war the Reserve Corps men would get a square deal and a better deal than they got at the opening of this war. And I for one personally desire to thank the writer from the bottom of my heart for what he has said.

President: Is there anyone else who wishes to discuss this paper?

Dr. C. H. Lemon: Mr. Chairman, the reader of the paper has the discussion by Dr. Yates, and I move that he be permitted to read it.

President: He may do so.

Captain William Middleton, Madison: Dr. Yates was unable to be present to discuss the paper, and gave me his written discussion, which I shall read.

Dr. John L. Yates, Milwaukee: General Ireland has stated in a personal letter that the Surgeon General's office invites constructive criticisms of the medical corps. No fairer criticism can be transmitted to him than one made in open meeting where free discussion is assured and none is therefore more certain to discover suggestions of constructive value.

Our obligations, as members of the medical reserve corps, did not cease with hostilities. We are in duty bound, as physicians, to aid the translation into civil practice of the progress made in all departments of medicine during the war and as citizens we must recognize our responsibilities by helping to eliminate the sources of past failures in the care given to the sick and wounded.

Self congratulations upon our wonderful accomplishments can get us nothing but that fearsome disease, self-satisfaction. Frank and fearless consideration of our sins of omission and of commission alone can lead to better service today and prepare us adequately for the next conflict.

Dr. Middleton is fulfilling a patriotic duty by bringing these matters to our attention. The moderation of his statements is the only point wherein he may be justly accused of inaccuracy. We served upon the same detail, which enabled us to be in field and mobile hospitals reserved for the nontransportable wounded. Our clinical experience with the A. E. F. extended from July 18 until after the armistice, during which time we were behind regular, national guard and national army divisions in the Chateau-Thierry, St. Mihiel and Argonne fighting. This was all offensive fighting and uninterruptedly successful so that pre-arrangements were possible. Failures noted were not confined to any one post or any one action type of fighting or troops in action.

Stated briefly the medical corps of the United States Army failed to realize its potentiality in the service rendered. The failures caused avoidable distress, disability and death. The cause of these failures were ignorance, unpreparedness and mal-organization.

The ignorance was fundamentally medical. Taking us as a whole we understood neither the problems of what we were to accomplish as a group nor as individuals. We learned much, there was much more to be learned. This ignorance cost the medical man little, but the price paid by the fighting man was terrific. Whose fault was it? No one person may take all the blame, but none of us can escape part of it. The answer is simple. Our educational system is faulty. Our medical students are given no opportunities to learn their medico-military duties. They are not made to realize these responsibilities. Our ideals are not beyond reproach. No physician who appreciates his job and believes in himself willingly can be camouflaged as anything else, nor would he undertake a career in which professional attainment is not a pre-requisite to success.

Unpreparedness can be made to cover all the sins in the category. Suffice it to say in this connection that the Medical Corps of the A. E. F. was deficient in the quality and quantity of material, equipment and personnel. The query as to whose fault that was starts the merry pastime of buck passing. And as usual the blame rests upon all that try to disclaim it. It means that every citizen of these United States who failed in the utmost effort to follow the lead of those who were preaching preparedness and who did not demand an administration that stood for preparedness is equally guilty of a grave neglect of duty amounting virtually to disloyalty. Ask again who paid the price? The same old answer, the fighting men.

Mal-organization is but another form of unpreparedness. The world's experience has taught that co-operative human effort is the most certain to succeed if established principles based upon natural laws are given practical recognition. These principles, like the laws of gravitation, or those governing tissue repair, are constant in war and peace and apply to man and man's activities whatever and wherever they be.

Any organization which hopes to develop its utmost effectiveness must be concentric, i. e., built about its raison d'etre. It must guarantee open and fair competition, the certainty of just rewards for accomplishments and for that alone, its various chiefs and subchiefs and artisans must be selected solely because of personal fitness and ability and must be given absolute authority commensurate with responsibility and upheld until supplanted. Lines of authority and responsibility must be so clearly defined and rigidly protected that interference is impossible.

There was pathetically little of this type of organization visible in France. Laymen when they undertake any duties in connection with a profession get their common sense befuddled with fancied mysticism and think some strange and wierd forces are active that vitiate the lessons of past experience. The gentle art of making war is no exception. After all, the large part of an army's job is just plain big business conducted by men in uniform. Feeding, clothing, supplying and transporting men, and looking out for their health. A medical corps is only a small part of any army, but the same holds true.

Open and fair competition was not in evidence, officers in the regular corps were given preference, irrespective of past attainments or present abilities. The official records of promotion will show the justice of rewards. The officers selected were chosen because of their rank, a recognition only of a time of service and not of professional attainment. To the reserve corps was delegated the responsibility of providing clinical care, but in fact without authority. There was constant interference with the plans of the professional heads; they could request orders be issued and not always successfully. Orders were issued changing the distribution of personnel and therapeutic policies without consultation of the heads of clinical departments and to the detriment of the clinical workers.

This could and did result in one thing, ineffectiveness. The making of war is the job of a nation and not the pastime of a standing army. Our regular medical corps, if it is going to take care of the standing army in peace times and be prepared to co-ordinate medical service in war time, has got to be reorganized and re-organized so that professional attainments are recognized as the sine qua non of promotion. Its job is to serve the sick and wounded. As it stands today, paper work claims the attention of all but the junior grades. The organization is eccentric, it is about the Surgeon General. The worship of rank has become a fetish; rank based upon years of service largely unprofessional. These officers are not soldiers in the narrow sense of the word, nor are they physicians. If the army needs physicians it should offer a career to young men who desire to follow the profession of medicine and should offer him his rewards in those terms only.

Let us be honest in every detail. We failed to deliver the best that is in us and this failure meant that our fighting men got less than a square deal. Changes must be made. The regular medical corps must be re-organized, members of the reserve medical corps must be trained for their work, co-ordinated and given a guarantee that in time of stress they can

provide suitable treatment as nearly when and where it is needed as warfare permits. Adequate equipment must be always on hand.

These things must be done now. Also we must see that the efforts to improve medical education and hospital service be supported. Should the medical fraternity in any of its branches be less than 100% Americans and followers of the golden rule? Let us remember that if ours were not on the fighting line last time, they will be next. Longfellow gave wonderful advice:

"Trust no future, howe'er pleasant
Let the dead past bury its dead
Act—act in the living present
Heart within and God o'erhead."

Dr. W. F. Lorenz, Madison: Mr. President and Gentlemen. I wish to compliment the essayist on the excellent presentation of a subject that certainly was the cause of a lot of feeling among the men in Service, particularly as he offers a solution to the problem. Such constructive criticism as he offers is quite proper, and certainly in the right direction. I wish to indorse most heartily his suggestion that a doctor be a doctor and always a doctor. What applies to a Base applies equally in a Division. I would rather be a doctor with fighting troops than a captain, major, colonel or a general. I would rather be identified as a doctor than have any military rank, and get the respect which every doctor does get in civil life, and which he also gets in a greater degree from a soldier than he would get as a ranking officer. I think if those changes could be inaugurated they would probably help greatly in the solution of the problem, and would avoid the jealousies that were engendered because of rank.

Captain M. R. Wilkinson, Oconomowoc: Mr. Chairman and Gentlemen. Before reading my paper, I want to say something by way of discussion of the last paper, and with reference to the friction that existed. I think it will be noted that the greatest amount of friction arose between the National Guard officers and the Regular Army Officers, and that friction arose largely from the fact that the National Guard Officers thought after a few months service, that they knew more than the Regular officers, which anyone knows was not true and could not be true, because the Regular officers have made this their life work. If one will stop to consider the difficulties encountered by the Surgeon-General's office and also consider what has been accomplished, he will realize that it really was a marvel and the wonder of the age that they were able to so adjust things to do the work as well as it has been done. For my own part, in my association with men of the Regular Army Medical Corps I found them to be of the highest class, up to standard in every respect. If there was any rough stuff ever handed to me it came from reserve officers. Men receiving rank would immediately become "swellheads" and try to hand it out to others. I have in mind one night being on duty at a hospital where it was my turn to become Officer of the Day. I was told by the Commanding Officer to keep in touch with the telephone. After supper I went on my rounds. It was a 17 ward hospital, and I was supposed to start at Ward 1 and go through. A patient was taken with hemorrhage, and I was called off to Ward 10. As soon as that case was attended to I was immediately called to another ward where a patient was suffering great pain, from there to another ward to care for another emergency, thereby breaking up the regular routine of ward calls.

The Commanding Officer in another city was attempting to get me on the phone and did not succeed. He did not ask the person at the phone to find the Officer of the Day by notifying one of the nurses or medical corps men to inform me, but kept calling one ward and then another, as a twelve year old might do, and of course missed me all the time, and I got hell in the morning because I did not keep in touch with the telephone while I was attending to serious and important work. Working in wards which had telephones I regarded as being in touch with telephones. Should I leave the wards naturally I should notify central where I could be found, which I did. I took my dressing, saluted, resumed my work for the day and sighed for peace to come.

For the manner of training at Fort Benjamin Harrison I desire to compliment the men of the Regular Army acting as instructors there. I must say that they treated the civilian practitioners entering there, as gentlemen. Later I was sent to Camp Greenleaf for the Post Graduate Course on Chest Work, and was given the regular routine of training again in connection with it. It was sure rough stuff by reserve men. I will not tell you how we were treated there, except to make the comparison of training a horse and breaking a horse, they trained the men at Fort Benjamin Harrison, and broke them at Camp Greenleaf. Sample of Greenleaf from a reserve officer who has recently been received into the regulars. He is lining up his company for the first time when he utters the following inspiring words: "I did not want to be your captain but I have been wished on you and I feel sorry for you. I want every man to observe strictly all rules and orders and I will report any man who does not as it is my only recourse. I don't care a whoop for any of you and I don't suppose any of you care a whoop for me and we will probably never meet again after we leave here anyway."

A man writes to an Illinois editor and asks what the word "per" means in business matters. The editor in question gives him an example thus: "A man in a bank or other office occupation gets so much per month." In the case of a doctor he gets so much per haps.—*The Critique.*

THE PROOF OF IT.

Bobby—Ma's in bed with a cold in the nose, and now you've commenced, Sis.

Elder Sister (a rabid Christian Scientist)—Dere is do such dig as a code id der nose.—*The Tatler.*

APPLICATION TO CIVIL PRACTICE OF THERAPEUTIC PRINCIPLES ESTABLISHED IN TREATING WAR INJURIES TO THE THORAX.*

BY J. L. YATES, M. D.,

MILWAUKEE.

More than half of the deaths from war injuries to the chest occurred within the first two days and were the result of anatomic destruction, hemorrhage and shock. After this initial period the largest proportion of deaths and the greatest degree of disability resulted directly or indirectly from pleuritis.

Pleurisy has been the most frequent indication for intra-thoracic intervention in civil practice. Pleuritis has been the greatest obstacle to success of thoracotomy undertaken for the relief of other diseases.

The factors concerned in preserving the structural and functional integrity of the pleura cover virtually the entire field of thoracic surgery. They involve general and local resistance, tissue repair and the ultimate effects of this repair upon respiration and upon both plumonary and systemic circulations.

The most valuable single contribution that military thoracic surgery can make to civil practice will be in helping to promote therapeutic means, to restrict the intensity and duration of pleural irritation, and to limit its extent.

Since the problem is important to all clinicians, the discussion will be limited to the reactions incidental to acute pleural irritation and to means of protecting resistance and thereby reducing ultimate disability.

Consequent upon pleural irritation, there is a prompt profuse serofibrinous exudate. The amount, and later the character, of the exudate is determined by the location and the size of the area involved primarily and by the intensity and duration of the irritation. In general the rate of effusion exceeds the rapidity of absorption, so that an excess of fluid appears in the pleural cavity. This excess fluid causes a corresponding degree of pulmonary deflation.

There is a tendency for the process to propagate itself. The excess serum as it is diffused from the area of reaction carries with it any irritants free upon the surface. Moreover a serous exudate is itself an irritant and is irritating in proportion to the number of cells, and the amount of fibrin or fibrino-plastic substances it contains.*

There is in consequence a tendency for an increasing amount of fluid to appear in the pleural cavity and this in turn to cause greater pulmonary deflation and a wider separation of the pleura surfaces with consequent formation of more dead space. In rare instances this process can produce, in less than twenty hours, an effusion sufficient to cause complete homolateral atalectasis and a fatal embarrassment to the circulation.

Usually the reaction is self-limited through an isolation of the site of most intense irritation by a formation of fibrinous adhesions to contiguous serous surfaces and by meeting the excess serous exudate with a less intense defensive reaction and more rapid absorption.

This is the first step in natural methods of checking the dissemination of irritants and thereby restricting the extent of inflammatory reaction. It should be recognized that the elimination of irritants is accomplished not only by sealing up the affected areas with fibrin, but also the chief sources of the irritants, cells or bacteria are enmeshed by the exudate at the same time.

Another step, limitation of motion, also to restrict dissemination is taken simultaneously. Pain reflexly inhibits the depths of inspiration chiefly by limiting costal excursions. This limitation is inadequate, if the irritant is intense or protracted. In that case diaphragmatic contractions incidental to respiration or to coughing must be more completely controlled. A paresis or paralysis of the diaphragm on the affected side is produced spontaneously by blocking the phrenic nerve, possibly at its center or more probably by some form of edema or more advanced reaction in the subpleura part of the trunk. At this stage the loss of motion is not due to muscular degeneration.

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*This report is based upon work conducted in France and being continued in the Columbia and County Hospitals and at the University of Wisconsin with financial assistance from the Research Division, American Red Cross.

Read before the Annual Assembly of the Tri-State District Medical Society held at Rockford, Illinois, September 1, 2, 3, 4, 1919.

*This assertion is based upon experimental observations made by Dr. W. S. Middleton with the collaboration of Dr. Robert Drane and upon observations made in treating the wounded.

The third step in defensive reaction, a maintenance of increased local blood supply is defective and explains the limited resistance of the pleural cavity. As effusion increases, pulmonary inflation decreases. Normal blood supply of the lung and visceral pleura demands at least a normal degree of inflation. Moreover irritation of the visceral pleura causes not only a serous, but also a subserous reaction and the cortical pneumonitis thus produced becomes an additional block to pleural blood supply where it is most needed.

The significance of these changes becomes evident with the realization that the powers of resistance of the entire pleural cavity are centered mainly in the visceral surfaces. It seems that pleural resistance diminishes more rapidly than the increasing disability of the visceral layer might indicate.

Therapeutic agencies to reinforce natural defenses are easily determinable. They must assist in the elimination of irritants, co-operate in reducing dissemination of irritation and most important of all, prevent deflation and consequent reduction of blood supply to the visceral pleura.

Practically this amounts to prevention of accumulation of fluid and the administration of opium in full physiological doses to reduce metabolism and consequently the demands for oxygen.

The chief question centers about the methods of drainage. Unlike the general peritoneal cavity, the general pleural cavity can be drained and usually the drainage can be maintained so long as there is fluid to escape.

No complicated apparatus is required. A 15 F. male catheter attached to a flap valve suffices.

Inspiration alone increases intra-thoracic pressure enough to cause fluid exudate to escape. The flap valve permits this outflow without resistance and also prevents any return of air. At the same time pulmonary deflation is prevented and pulmonary inflation augmented. This automatic system is preferable in acute pleurisy to forced suction through the drainage tube or to abnormally increased intra-tracheal pressure however it is induced. Physiological readjustment is safer and more accurate if it develops gradually.

Attention should not be focused upon what is desirable to accomplish to the exclusion of what is essential to avoid. Treatment must be determined by the liability of late untoward effects as well as by immediate dangers. There are four common complications to be considered: chronic diffuse adhesive pleurisy, chronic cortical pneumonia, permanent disability of the diaphragm and myocardial irritability.

Chronic adhesive pleurisy: Serous surfaces go through definite phases in healing. At first adhesions are inevitable and desirable. After this period early disruption of the adhesions by *active* motion accomplishes either their disappearance or stretches them to the point of not impeding natural movements of involved surfaces. Permanent adhesions of this type do not interfere with respiration and are of consequence only through reducing resistance if another pleurisy should occur. The more generalized and the more fixed the adhesions the greater the restriction of respiratory movements; the more marked the dyspnoea of exertion and the greater the danger of subsequent tuberculosis.

The liability of this handicap to follow pleurisy has been underestimated. A simple uninfected hemothorax of less than 1000cc has caused a complete obliteration of the pleural cavity. Pleural effusions are not less irritating than blood and should be considered as likely to have induced an equal degree of diffuse re-action which, if neglected, can result in the most unfavorable type of chronic adhesive pleurisy.

Chronic cortical pneumonia: The acute superficial pneumonitis due to irritation of the visceral pleura is prone to organization. The processes of repair in the internal surfaces of the lung are identical with those on the pleural surface. Exudates within air cells become more permanent as they persist and by their persistence handicap respiration and have a potentiality for damage similar to chronic adhesive pleurisy.

Permanent disability of the diaphragm: Pryor has called attention to the frequency of this sequel to pleurisy and discussed its causes. It has great bearing upon subsequent welfare and is quite possibly a big factor in explaining the delayed and incomplete recoveries which followed expectant treatment of thoracic injuries. It is more crippling in the degree of consequent dyspnoea occasioned than are diffuse adhesions.

Inactivity of the diaphragm is accompanied by decreased costal excursions on the same side so there is a very material interference with respiration. This apparently is due to some disturbance in the central nervous system as it accompanies the transient paralysis occasioned by blocking the

phrenic with cocaine in the cervical region. Capp's observations upon the sensory fibres in the phrenic nerve offers an explanation. Pryor suggested that the diaphragmatic disability might be due to a chronic myositis. This is true in certain instances, at least, and in one microscopic evidence pointed to a direct extension from a chronic empyema.

Myocardial irritability: Tachycardia is frequent, often persistent, and out of proportion to dyspnoea. Early activity is essential to a good recovery, but when rapid and particularly when rapid and irregular action of the heart is present that individual must resume activities gradually to avoid serious damage to the heart.

Granting early recognition of pleuritic effusion, a single aspirative may suffice. It has the disadvantages of more rapid evacuation and the benefit is usually transient. A catheter drain can be introduced with very little more distress than is caused by inserting as aspirating needle. The relief is sufficiently more certain to justify its use as soon as a diagnosis is made.

The location for the drain and its insertion are best controlled with a fluoroscope. Usually the lower level taken by the lung at the end of inspiration near the mid-axillary line is the most advantageous point. As it may be desirable for the catheter to remain in position for several days, it is expedient to provide a flap to cover its track when it is withdrawn. The skin should be dislocated over the point selected, held in this position and infiltrated with a local anesthetic. Infiltration is then made gradually deeper to assure anesthetizing the parietal pleura. The needle is then pushed through the pleura and the piston of the syringe withdrawn to gain desirable confirmation. A small slit in the skin makes introduction of trochar and canula easier. As soon as the trochar is withdrawn, a catheter is inserted. This should fit the canula accurately enough to prevent entrance of air, but not so snugly as to interfere with withdrawing the canula. A fluoroscope is of aid in seeing that the catheter is properly placed. The tip must be free in the pleural cavity, but should not be in contact with diaphragm or lung. This position is maintained by fixing the catheter to the chest with narrow strips of adhesive plaster.

After care is equally simple. Until the temperature is down, the individual should be recumbent upon the unaffected side, and kept deeply under opium. As soon as the temperature stays normal, sitting upright is desirable and thereafter increasing activity. When the lung is fully distended, the tube should be removed as some discharge will persist as long as it is in place. It is quite immaterial if it be removed too soon. Reinsertion is so simple. Permitting it to remain too long is serious as this causes dense adhesions.

Progress should be controlled with fluoroscopic examination and by skiagrams to guard against over-looking an encapsulated empyema. As soon as possible, with due regard to myocardia protection, breathing exercises should begin and physical activity increased. This will assure complete recovery with the least delay.

This form of treatment, which is merely a continuation of the teachings of Bowditch can scarcely be classed as surgical. Properly used, it should reduce the incidence of and the death rate and disability resulting from empyema.

The same principle of one way drainage is applicable in establishing primary drainage when a thoracotomy is performed. If a pleurisy is already present or if more than the usual post-operative pleural reaction is probable this simple procedure gives a wide margin of safety.

CONCLUSIONS.

Prevention of pulmonary compression and deflation is the most essential feature in treating acute spontaneous pleurisy with effusion and in minimizing the dangers of pleuritis after thoracotomy.

Pulmonary inflation can be attained by the early application of one way air tight drainage.

The serious late complications of chronic diffuse adhesive pleurisy and of diaphragmatic inactivity can be to a large extent, obviated by this procedure if supplemented by the use of active motion as established in treating acute inflammation in other serous cavities.

GAVE HIM AUTHORITY.

It is related of Darwin that when pursuing his early studies relative to effects on animal species produced by long-continued mutilation of some special kind, he wrote to Huxley, asking his opinion and suggested, for example, if anything could be deducted from an examination into the peculiar racial custom of circumcision. Huxley's answer came by next post: "There is a divinity that shapes our ends, rough hew them as we will."—*Exchange.*

SOME PHASES OF RECONSTRUCTION SURGERY.*

BY JOHN W. POWERS, M. D.,
MILWAUKEE.

The scope of this paper will be limited to the activities of the Orthopedic Section of the Base Hospital at Camp Sherman, Ohio. Overseas cases began arriving, in considerable numbers, at this hospital, about Dec. 14, 1918, and until June 1st, 1919, on an average of 1,000 cases were admitted each month.

The Orthopedic side of this hospital was made up of about a dozen wards, two operating rooms, a Physio-therapeutic department, a shop for the manufacturing of apparatus and splints, and shops for Vocational therapy.

Cases on entry were classified as clean or infected. These classes were then grouped in special wards depending upon whether they needed operation or manipulation only. The wards accommodated 50 patients each.

One of the most valuable adjuncts to our work, was the department of Physiotherapy. A very large group of cases required the mobilization of stiffened joints, stretching of contracted muscles and tendons and the stimulation of atrophied members preparatory to operation. The agents used were Massage, baking, hydro-therapy and electricity in the form of the Bristow coil.

In connection with this department, was a well equipped gymnasium under the guidance of a very proficient Physical Director, who "carried on" where the "Rubbing-Angels" left off. The shops for Occupational Therapy and Vocational Training supplied a means of carrying out certain individual and specified exercises along pleasant and instructive lines which were devoid of the monotony that usually accompanies that sort of thing.

The clean cases to be operated included peripheral nerve injuries, loss of bone and tendon substance, non union and mal union of old fractures and various bone and joint lesions. The infected cases consisted largely of the Osteo Myelitis cases.

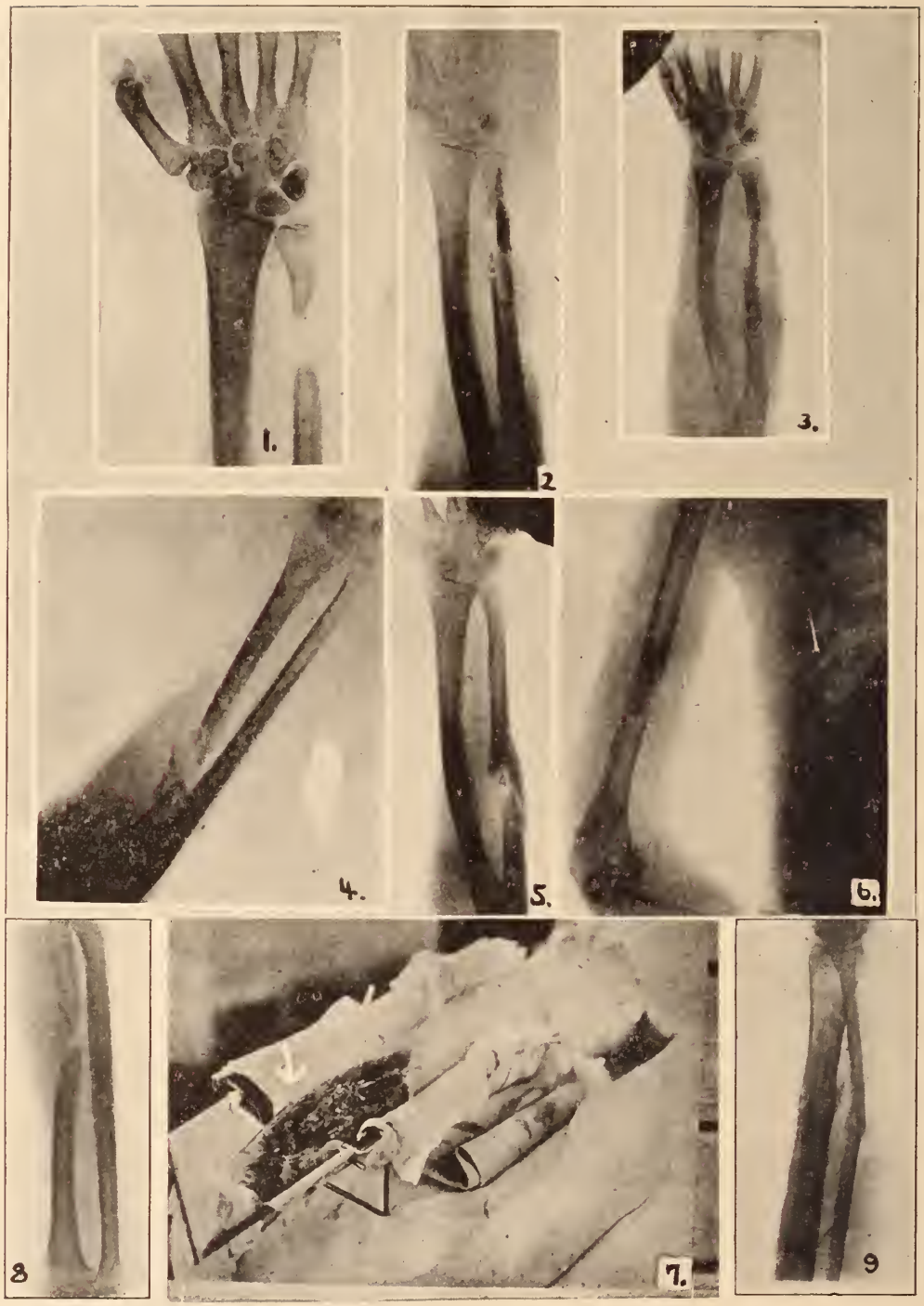
In the peripheral nerve injuries, in the case of the Sciatic and Musculo Spiral and Median, where there was not too much loss of the nerve tissue, an end to end anastomosis was done. In the smaller nerves as the Ext. Popliteal and Ulnar, we found that tendon transplants or tendon fixations were more satisfactory. Many cases of severed tendons were encountered, especially of the Extensors of the hand. These were liberated from the scar tissue and bridged with twisted silk cables. As the tendon sheaths were destroyed we canalized the gap with strips of Fascia-Lata. In a particular case about three inches of Tendo-Achilles had been destroyed and the Gastrocnemius had retracted to such an extent that there was a gap of about four inches between the ends of the tendon. After splitting the tendon and turning back one-half from each end, there was still a gap of two inches. This was bridged with four large twisted silk cables and at the end of eight weeks the patient was walking on the foot and the new tendon could be felt filling the gap. Of the bone grafts I will speak later.

In any specific case the result desired was a restoration of function to the part. Usually that result could be secured only through a series of events. For instance, a case with a loss of bone substance which required a bone graft, was usually accompanied by limited motion or ankylosis of the neighboring joints. Possibly there had been a nerve involved in the same wound, the osteo-plastic operation and the nerve suture were respective links in this chain of events and necessarily must be preceded by mobilization of the joints. This was also true of the tendon operations.

Most of the so-called clean cases had originally been infected and the greater number had been healed only two or three months when they came to this hospital. The experience of the English and French in the earlier months of the war, had clearly demonstrated the danger of operating these cases under a period of six months after the infection had subsided. Obviously several months stay in the hospital could be avoided if these cases could be safely operated sooner. We found that if after two weeks of brisk massage and baking, we produced no reaction in the part to be operated, we were safe in going ahead.

Of Osteo Myelitis there were about 150 cases; these cases were X-rayed as soon as possible after entry and where a definite sequestra was located, it was usually removed at once. However there were cases in which the humerus or femur had been so badly comminuted, and in which there were definite sequestra but an insufficient amount

*Read at the meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 3, 1919.



Cut No. 1. Illustrates typical example of loss of bone substance, requiring bone graft.

Cuts Nos. 2, 3 and 5. Tibial transplants into ulna.

Cuts Nos. 4 and 8. Ununited fracture of radius, with displaced pieces of cortical bone attached to upper fragment. By producing green stick fracture of this fragment, it was attached to lower fragment of radius, and held with kangaroo tendon.

Cut No. 6. Medullary splint of ununited fracture of humerus.

Cuts Nos. 7 and 9. Infected sliding graft for ununited fracture of tibia. Infection controlled by Carrell-Dakin treatment. On 21st day surface of graft was bit into with rongeur; these points bled freely, showing that graft was viable. Secondary closure was done. Patient walked in twelve weeks.

of involucrum to preserve the continuity of the bone. Where the infection could be controlled, these sequestra were left alone until sufficient involucrum was formed. The presence of these sequestra stimulated the formation of a heavier involucrum than in the cases in which they were removed earlier.

All overhanging bony ledges were removed to allow the soft tissues to drop into the bony crater and thus help obliterate the cavity. Carrell-Dakin treatment was carried out in these cases according to the most approved technique, ward surgeons and nurses especially trained in this treatment being in charge. In a few instances the bacterial count became so low that secondary closures were accomplished.

In a considerable number of cases there was a loss of bone substance. (Cut No. 1). These cases obviously require bone grafts. Before this operation is done, the member was massaged and manipulated for a couple of weeks, for the purpose of stretching the contracted muscles over the affected bone, increasing the circulation of the part, and to stir up any latent infection that might be present. The technique followed was that of Albee. The ends of the bones were usually eburnated and conical in shape. These ends were removed to a point where the bone bled freely. The graft was taken from the patient's tibia, and was shaped according to the requirements of the case, (Cuts 2, 3 and 5) the aim being to preserve the length of the bone. In inserting the graft care was taken in preparing the field for its reception, to disturb as little as possible the soft tissue surrounding the ends of the bone.

In the cases of non-union of the tibia a sliding, inlay graft was used, and in non-union or loss of substance of the humerus, a medullary splint was employed. I used a smaller piece of bone for the medullar splint than is usually used and obtained an adequate fixation. One of these tibial cases, became infected with streptococcus hemolyticus. The sutures were immediately removed and the flaps were reflected back. Carrell-Dakin was started and in six weeks a secondary closure was done.

On the 21st day the graft was bit into with a rongeur forcep to ascertain its viability, as it was firmly fixed in its bed. The graft bled at the points where the cortex was removed.

I believe we have in the Carrell-Dakin treatment, a valuable aid in such cases and infection need not necessarily spell failure.

DISCUSSION.

PRESIDENT: Gentlemen, this paper is open for general discussion. To me this was a very interesting paper. I have no doubt that Dr. Powers will be pleased to answer any questions you might wish to ask. Are there any questions? If not, I will ask Dr. Powers if he would like to make any further remarks?

MAJOR POWERS: I neglected to say that after bone graft operation, the arm was put up straight in a plaster cast, from the metacarpo-phalangeal joint to the shoulder. There were two cases of flail elbow joints that I was not able to get slides of. These flail joints were quite a problem. We prepared apparatus for these men, but you know how a young fellow is with an apparatus; it chafes and is more or less unsatisfactory. I took a trip to Albee's Clinic, and Albee had perfected an ingenious operation for taking care of these cases. He passed a graft from the ulna to the humerus. The man was consulted as to what occupation he had followed, or what occupation he intended to follow when he got out of the army, as the angle of fixation depended on whether he was going to do heavy work or clerical work. You see, uniting the ulna and humerus allowed for Pronation and Supination. It was surprising how they could use the arm. When I came back I did two of these, and it worked very well.

Another thing is the Carrell-Dakin treatment. You will occasionally hear it criticised as being inefficient. Invariably when you find out the details of these unsuccessful experiences, you will find that they have not followed the technique absolutely to the letter, or they would get the results. The solution must be titrated every day, and the people who handle it must be especially trained in that work. Every morning when these osteomyelitis cases were dressed, the skin was washed with ether and soap, the skin and soft tissues around the wound massaged and pushed over toward the wound; all little pieces of bone that could be seen through the granulations were bitten off, and 3 or 4 times a week the granulations were rubbed off with bits of sterile gauze and ether. Absolutely free drainage is necessary. If those things are done, and the treatment is carried out correctly, there is no question about the results with the Carrell-Dakin treatment.

Doctor: "Your throat is in a very bad state. Have you ever tried gargling with salt water?"

Skipper: "Yes, I've been torpedoed six times."

REASONED HER MOST TO DEATH.

Mrs. Chugwater—Josiah, the doctor says Mr. McJones has pleuro-pneumonia. What is pleuro-pneumonia?

Mr. Chugwater—You know what pneumonia is, don't you? Well, pleuro is the same as plural. It means more than one. Pleuro-pneumonia is what you have when you've got it in both lungs. Why can't you think these things out for yourself once in a while.—*Chicago Record-Herald.*

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 514 Wells Building, Milwaukee

Vol. XVIII. March, 1920 No. 10

EDITORIALS

"There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman: the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion tested by a hundred secrets; tact tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing."

—Robert Louis Stevenson.

MEDICAL PRACTICE AND STUDY.

PRACTICE, teaching and study are inseparably united in the art and science of medicine. The practitioner must study persistently in order to give good service, he must instruct efficiently in order to make his service to his patients effective. The professional medical teacher, if not a practitioner, must be in close sympathetic touch with those who practice if he is to prepare others for practice, he must be something of an investigator if he is to train progressive practitioners. The professional medical investigator must understand the problems that confront the practitioner if he is to help to solve them and must know how to teach teachers if he is to have his solutions understood and applied. The chief aim in medical organization should be to create such conditions as will best facilitate effective practice, effective teaching, and effective study and investigation. To achieve this aim liberal public support is necessary. From such support the public would reap unmeasurable benefits.

For effective organization along the lines mentioned public hospitals are essential. Public hospitals should not have to depend on the more wealthy of the patients cared for for their support. They should be liberally supported by public taxation not only for the sake of offering good care to the needy but also as essential factors in our educational system. Every public hospital should be a center for the study and treatment of the sick and for the education of physicians, nurses, patients, and the general public. Such a hospital should be within the reach, both as to territory and pocketbook of every citizen, as our schools now are in theory if not always in practice. In rural districts the hospitals should be simple but efficient for the ordinary needs of the community. In the larger centers, as we have previously pointed

out, we should expect more elaborately equipped hospitals. In connection with our universities we should have hospitals with every facility for investigation and treatment. At the universities we should do the bulk of the teaching of medical students and the major part of the more difficult aspects of medical investigation but some of the practical teaching of medical students might well be done in the better organized hospitals in various parts of the state. In the latter we should expect to see post graduate medical instruction developed, a direction in which a modest start has been made by the Bureau of Medical Extension of the State University. We should look forward to the time when the older and more experienced men of the profession with a talent for teaching will have throughout the state more opportunity than at present to instruct and the younger men more opportunity to profit from this instruction.

The legal profession is at present better organized along these lines than the medical profession is. As every court today is a school for young lawyers so every hospital should become a school for young physicians. The legal profession has taught the public to give most liberal support to the organization for the protection of property and social relations. Cannot the medical profession educate the public to give similar liberal support to an organization for protection against disease, alleviation of suffering and promotion of health?

When once the public understands the value of public support of medicine the response is always liberal. At the last session of the Iowa Legislature large sums were appropriated without a dissenting vote for the erection and support of hospitals for the study and treatment of disease at the State University. In Illinois similar plans involving the ultimate expenditure of $5,000,000 or more for buildings are well under way. In Michigan at the last session of the Legislature $1,400,000 was appropriated without a dissenting vote for the beginning of the erection of a new hospital building at the State University with the understanding that as much more would be appropriated if needed to complete and equip the building. In both states plans are under way for making use of various hospitals throughout the state for post graduate instruction. The medical profession of Wisconsin must teach the public to understand that Wisconsin cannot afford to fail to do its share toward the proper public support of medicine.

C. R. B.

AMERICA WILL TAKE LEAD IN MEDICINE.

DR. SIMON FLEXNER, director of the Rockefeller Institute for Medical Research, in a recent address at St. Louis said that just as American medical students and physicians in the past have gone to France and Germany to complete their education, so European students in the future will expect to come to America for the finishing touches, because the world is looking to America to take Germany's place as the leader in medical science.

Speaking on the subject "The Future of Medical Education," Dr. Flexner said: "It will be very difficult for Germany, which led until the beginning of the war, to continue on the same plane. It is impoverished by debt, and staggering under a heavy burden of taxation. The remainder of Europe is in no condition to carry on the work. Europe looks to America.

"It will be no small task to exceed Germany in this matter. If we achieve it, it will be because we conceive a form of education that is adequate, and then carry out our aim by hard work and continued effort."

Referring to a total of $25,000,000 recently given in bequests and donations to the advancement of medical science, Dr. Flexner said it was not long since it was harder to get money for medical purposes than for any other science. Now it is easier, he said.

"This is because the profession has come to be greatly respected in America," he explained. "The public has great faith in it. Much of this is due to the fact that the public realizes that physicians, more than any other class of men, give their services free. In point of philanthropic work, no other profession approaches it.

"It is also due, I believe, to an appreciation by the public of the fact that we are, in a way, constantly working to deprive ourselves of a livelihood, because much more time and effort is spent on preventing disease than in curing it.

"The greatest difficulty which medical science faces is the small number of men who are able to take advantage of this opportunity. We are facing a crisis, and the solution consists in rapidly

and adequately training a sufficient number of men to teach our future practitioners. Able teachers are most seriously needed. They must be thoroughly grounded in medicine and in the sciences upon which medicine rests. We have the raw material, but it must be found, nurtured and developed.

"The history of medicine shows us that the leadership has shifted from one country to another. First Italy was at the head; then the Low Countries; from there the palm passed to England, thence to France, and finally it was Germany who held it. Now America's chance has come. Will we grasp it? I hope so—I believe so. If we do, it will be because we will grasp the fact of the great change in the manner of medical education, and make of it such a science as it never has been before."

WAR'S EFFECT ON FRENCH CHILDREN.

THE effect of the war on the children of France is shown in a recent report submitted by the American Red Cross headquarters at Lille. The figures are furnished by the Municipal Bureau of Hygiene.

The city had a pre-war population of 200,000. The birth rate has shrunk from nearly 4,900 in 1913 to only 600 in the past year. The figures by year follow:

	Births.
1913	4,885
1914	4,540
1915	2,155
1916	640
1917	600
1918	600

This indicates a total loss of 15,000 births during the war.

The death rates according to ages are not known, but since the armistice a survey has been made in all public and private schools with a view to obtaining appropriate food for all children whose development has been retarded, and to place all those who show signs of tuberculosis in the care of institutions and welfare organizations. Of 18,000 children in school at Lille at the time of the armistice, over 6,000 had to be sent to hospitals or convalescent centers.

This survey indicated that 60 per cent of the school population showed signs of arrested development, while about 40 per cent gave evidence of ganglionary or pulmonary tuberculosis. In one typical school, out of two hundred and ten examined, only one was in normal health.

PSYCHOLOGICAL HANDLING OF TUBERCULOSIS.

A RECENT discussion of the psychological handling of the tuberculous patient in the American Review of Tuberculosis is deserving of editorial comment. In no disease is the relation between mind and body so close and so important as in pulmonary tuberculosis. This fact must be recognized as an important factor both for prognosis and treatment, and the complete confidence of the patient obtained. A proper personal atmosphere is important for the welfare of the patient and is often better obtained in an institution than in the home, especially in a cottage sanatorium where a group of patients, socially and financially compatible, are all educated to a proper attitude toward each other and toward themselves. It is essential that the patient be seen for proper psychic treatment as well as supervision. At first twice a week, and after thorough acquaintance is established once a week, should be enough. When office visits become feasible a fifteen minute interview twice a week and an hour for physical examination once a month is sufficient. The study of the mental side of the case will become so fascinating that the handling of the case becomes a pleasure rather than a task.

The tuberculous are by no means always or even often abnormal, as has been implied by some writers, though there is a good deal of neurasthenia and hysteria among them and they are apt to have a rather labile temperament. When one considers the terrifying effect for a person ignorant of the real nature of tuberculosis of first learning that he is suffering from this disease, it is no great wonder that it causes a fearful upset of his mental poise and easily produces in any but the most phlegmatic or the most self-controlled a temporary neurasthenia. There is no such school of character as tuberculosis bravely met and rightly faced. No doctor could want a more splendid work than to have a part in teaching these patients to master the bitter sorrow of sickness. He must be hopeful in order to inculcate hope. While there are many that cannot be saved there are also many who can be restored to working efficiency for long periods or for good, and even in the long drawn out chronic cases life can be made useful

and filled with interests and happiness if the patients are but taught to face it aright. A foolish optimism which refuses to see the truth is a miserable thing, that only doubles the sorrow of the patient when he comes to a realization of the facts. But a wise optimism can yet give him hope and a power to fight whose value cannot be overestimated in its effects on the success of our physical efforts. Finally the physician's endeavors should be directed not merely to curing the curable patients but to heartening the apparently hopeless ones to fight to the end.

EDUCATING THE RURAL DISTRICTS IN SOCIAL HYGIENE.

IN line with its purpose of bringing health education directly before the people, particularly in remote rural districts, and of cooperating with all existing public health agencies and societies, the American Red Cross has just appropriated $10,000 as a donation to the American Social Hygiene Association to aid that organization in establishing a traveling exhibit on social hygiene. The exhibit will be mounted on a motor truck and will consist of a motion picture machine with films and slides on social hygiene, a fireproof booth that can be set up in schoolhouses or churches, and large quantities of literature and posters. A representative will precede the exhibit into each community in order to line up its special problems so that they can be dealt with specifically.

The American Social Hygiene Association was formed in 1914 by the union of the American Vigilance Association and the American Federation for Sex Hygiene, and later merged with the New Morrow under the name of the Society of Sanitary and Morale Prophylaxis. During the war, having secured from private sources some half million dollars, it supplemented the governmental efforts in combating venereal disease by cooperating with official agencies that were promoting the campaign in and around military and naval establishments.

The Association is now back on a peace-time program, but greatly enlarged and strengthened by its own experiences as well as that of the nation generally during the war. Its program has proved successful, and has been adopted in substance and expressed in terms of administrative organization and legislation by almost every state in the union.

Recently the Board of Health of North Carolina suggested to the Association the value of a traveling exhibit which could go through the rural districts and bring their special problems squarely before the communities. Through the American Red Cross this was made possible. The first demonstrations will be made in North Carolina, and will be followed by demonstrations in other states. The Board of Health will pay rent for the exhibit which will cover actual expenses. Reaching rural communities in this way is a Wisconsin idea, we are proud to say, and originated with our own Wisconsin Anti-Tuberculosis Association.

THE JOURNAL CLINIC

Edited by
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(Address all communications direct to the editors)

TWO CASES OF VASCULAR HYPERTENSION.

BY H. P. GREELEY, M. D.,
MADISON.

I. H. C. L. Age 58. Female. Married. Housewife. Family History negative.

P. H. Has always been well and strong. Has led a strenuous but thoroughly healthy life, bringing up five children and this has necessitated hard work and much worry. Passed menopause with very little disturbance six years ago.

P. I. Symptoms over past six months have been nervousness, sleeplessness and general irritability. On two occasions patient has had severe attacks of dizziness at night, one of them associated with severe nausea and accompanied by great pallor and prostration. No headache, dyspnoea, backache, palpitation, cough, no disorder of digestive apparatus. No urinary disturbance, no nocturia. For last twenty-four hours has had a sharp pain in left lower axilla, aggravated by deep breathing. Pulse 84. Temperature 98.6. Respiration 22.

P. E. Well developed and nourished woman who appears young and vigorous for her age. Skin clear, moist, color healthy, subcutaneous tissue moderate in amount. Pupils equal, regular, react normally to light and accommodation. Throat normal, tongue clean. Many dead teeth. Moderate pyorrhea.

Lungs negative but for leathery friction rub in left axilla.

Heart. Apex impulse felt and seen in sixth space 2 cm. outside mid-clavicular line, heaving in character. Dullness corresponds. Right border of dullness at right sternal margin. Sounds all accentuated, especially Aortic second sound which is loud and ringing in character.

Thyroid. No enlargement. (No tremor, no exophthalmos.) Superficial arteries slightly tortuous and fibrous. Blood pressure 210 systolic. 100 diastolic.

Abdomen negative.

Urine 1000 c. c. in twenty-four hours, divided as follows: 250 c. c. at night, 750 c. c. during the day. Gravity 1016-1028. No albumen, no sugar, no casts.

Renal function test 55% in two hours. Blood creatinine .8 mg. per 100 c. c. Blood urea 10 mg. per 100 c. c. The pleurisy cleared up in about a week.

Following radiograms of the teeth, which disclosed several bad apical abcesses, treatment was instituted and gradual extraction done. Following each, all symptoms were accentuated and corneal ulcers developed, requiring much painful and tedious treatment. After subsidence of eye condition and replacement of teeth with new ones, all symptoms began to subside, and at last report four years later, the patient stated that all subjective symptoms were very much improved.

Examination at that time revealed nearly the same condition. Renal function was 55% in two hours. Blood pressure 170-95. Urine the same as before. In the interval, beside the tooth condition, no form of treatment other than a mild reduction in diet and increase in elimination had been carried out. There has been a loss of about twelve pounds in four years, but patient is of normal weight.

Discussion. Here we have a case of vascular hypertension in which the mouth infection seemed to play an important role. The aggravation of all symptoms during the liberation of poison at the time of extraction and the subsequent improvement which has remained permanent under the added influence of correct living and diet, seem to argue for a toxic arterial change which has not been progressive. The high gravity and scant urine speaks for arterial changes without interstitial change in the kidneys. The blood chemistry was normal. The lesson to be learned is the proper evaluation of high blood pressure conditions and the individual treatment necessary. Instead of condemning this woman as a chronic Bright's case (because of her blood pressure of 210,) which is too often done, we can give her a thoroughly good prognosis. With care her condition will not prevent her living her life out in comfort and reasonable activity.

II. Female. Age 52. Widow.

F. H. Mother died after lingering illness of nine years. Father died in her infancy of pneumonia. Mother had migraine.

P. H. Well as a girl and strong. Married early in life. No children. Husband very alcoholic, a constant source of anxiety for twenty years. Finally died of cancer of the throat after great suffering. Patient collapsed after these years of great strain. Underwent operation for fibroid at which time, now nine years ago, high blood pressure was discovered. All her life has suffered from nervous headaches of occipital variety; often of the "bursting" variety. Sometimes her head feels as if it were being screwed up in a vise.

P. I. Six months ago had a particularly severe attack with an unusual amount of nausea and vomiting. Somewhat later she had a very severe nasal hemorrhage. Has been confined to bed or in hospital ever since until recently with frequent spells of palpitation, headache, nausea and abdominal cramps, suggesting abdominal angina. Bowels always loose, two or three times a day. This woman has always overdone and always exceeded her strength. She is a bundle of nerves and repressed emotion.

P. E. Very short, light woman. Color normal. Many lines of anxiety and trouble in her face. Weight 45 kilo. Pupils negative, throat negative. Teeth all alive, no evidence of pyorrhea.

Thyroid negative. (No tremor, no exophthalmos.)

Heart slightly enlarged to right and left. Aortic second sound sharp and snapping in character. No murmurs. Pulse 84. Lungs negative. Abdomen negative. K. I. lively and equal. No edema. Blood pressure 240 systolic, 140 diastolic. Hgb. 75%. Blood smear preparation normal.

Urine. Day 200 c. c., night amount 450 c. c. Gravity of fractional specimens 1009 to 1022. Albumen slightest possible trace by heat test. No sugar. Sediment very rare hyaline casts.

Blood urea. 20 mg. per 100 c. c. Blood creatinine 1 mg. per 100 c. c.

Renal function, (Phthalein Test), first hour 40%, second hour 25%. Total 65%.

In the last two months under careful dieting, encouragement and treatment of her nervous condition, she has improved tremendously, her blood pressure coming down to 200 systolic and 130 diastolic. She is up and about and enjoying life.

Discussion. This case presents some contrasts to Case I. No source of infection was discovered. The Wasserman test was negative in both repeatedly. Here we are also dealing with an advanced vascular sclerosis of the kidney. The extreme Oliguria and high gravity of some specimens show that here again we have very little interstitial change in the sense of the small contracted kidney. It is the arterio sclerotic kidney par excellence. The etiology of this condition is open to question and undeterminable, but if nerve strain, worry and a high strung nature are etiological factors, the explanation is simple. Again we see how criminal it would be to condemn this woman because of high blood pressure to an utterly useless and inactive life. In this case a blood pressure of 200 has been a matter of record for ten years, and who will say that by careful treatment and the avoidance of an alarming prognosis she will not enjoy ten more years of comparative comfort, though of course, an acute termination by apoplexy is not unlikely. Less unlikely now however, since for a considerable period she carried a blood pressure of 240 and higher without disaster, and now she maintains a pressure of 200. By a liberal carbohydrate diet which makes possible a sparing of protein and actual reduction of protein intake to twenty grams, we avoid the accumulation of nitrogenous waste products in the blood without a loss of body nitrogen. This allows about one-half a gram of protein per kilogram body weight, (adequate for her time of life.) The carbohydrates chosen are those poor in protein,—hominy, cornstarch, tapioca, fruits and sugar. Worry and overdoing are avoided as far as possible.

THE LANE PLATE IN TREATING AN INFECTED FRACTURE.

BY J. M. DODD, M. D.,

ASHLAND.

C. H., age 24, while working on a landing a rollway broke and logs rolled over and onto him. He was pinned under them for about an hour, and the temperature on that day was about twenty degrees below zero. As a result of the accident both legs were broken, the left foot was crushed and lacerated clear across the top at the base of the toes. There was a contusion over the sacrum, and the right arm was badly bruised. He was given attention by the local doctor, who sent him to the hospital at Ashland.

After the first day he showed some shock and general physical and mental depression; and the third day he became delirious, and his temperature ran up to 103. The injured toes were becoming gangrenous; the right leg, opposite the fracture and extending up some distance above the knee on the inner side, became oedematous, and took on a dusky hue, the entire leg becoming swollen clear to the hip. It was evident that the toes had been frozen and that the surface of the right leg had been frozen at the site before mentioned.

On January 6 the third, fourth, and fifth toes were amputated, the gangrenous edges of the wound were removed, the wound left open and dressed with gauze and Dakin solution. The progress of this wound was fairly satisfactory, but in the meantime the skin of the right leg, on the inner side, at and above the point of fracture, began to slough away and pus was forming in the subcutaneous and intermuscular spaces, and also around the fracture. Without any swelling to speak of, at the site of the fracture in the left leg, fluctuation was detected and on incision a considerable amount of pus escaped from around the fracture of the tibia. The patient was very septic, though the temperature began to go down as soon as the pus pockets were opened.

The sloughing of the skin on the right leg continued and the suppuration to extend until it had reached the middle of the thigh and nearly to the ankle. The pockets were opened and drained and Dakin-Carrell tubes were placed to the bottom of the cavities, and led out to the dressing for periodical irrigation.

The fractured ends of the bone becoming displaced, it was impossible by any means that could be applied, to hold them in place and the handling of the legs for the purpose of dressing them was a most disagreeable undertaking. In order to enable us to handle the legs, I put on the front of each tibia a long, strong Lane plate, which enabled us to handle the legs as well as if they had not been broken, and we were able to proceed with the treatment then in quite a satisfactory manner.

A large bed sore developed over his sacrum, which it seemed impossible to prevent, although he was put on a Bradford frame early and all possible precaution taken. The injury, however, at this point together with the frosting of the tissues made the bed sore inevitable.

His condition remains fairly satisfactory when everything is considered. There appears to be a fair prospect of his recovery.

The bone plates, of course, were placed on the bone in an open wound, and no effort was made to close the tissues over them. The plates have made no disturbance, but on the other hand they have made it possible to handle the legs as they could not have been in any other way. I have previously reported my experience with a Lane plate in bridging over an elbow joint, which had been entirely carried away by gun shot, making it possible to handle the arm and keep it dressed until such time as the defect was filled with soft tissue, making a very useful arm. In this instance the plate was exposed during the entire time it was in position.

My purpose in reporting this case is that it is a most unusual one—both legs being broken, complicated by frost bite, with sloughing of tissues and suppuration at the site of fracture.

At the height of the septic process three days after the injury the red blood count was 2,290,000 and the leucocytes 17,100. At this time the red blood count is 2,240,000 and the white count 13,600.

REPORT OF A CASE OF INTUSSUSCEPTION.

BY L. H. FLYNN, M. D.,

EAU CLAIRE.

Baby Dennis—Aged 5 months, at 8 A. M., Jan. 21, 1920, had a bloody diaper. During the next six hours there were 5 or 6 such diapers but no indication that the baby was in any pain or distress. In the afternoon same day vomiting began, diapers no longer bloody. Several bowel movements which were thin and light yellow in color. Temperature subnormal. Pulse 100 to 120.

That night the baby suffered great pain and on Jan. 22 no further bowel movement could be obtained with enemata.

While intussusception was thought of no mass could be felt in the abdomen nor per rectum until about 6 o'clock in the evening of Jan. 22—when an enema returned bloody and a mass presented at the anus. Efforts to reduce the invaginated bowel under anaesthesia failed and laparotomy was done.

The invaginated part of the ileum was quickly returned to the ileo-cecal valve and after some difficulty reduction was completed. There was no gangrenous bowel and the abdomen was closed. The operation was done in the evening of Jan. 22 about 36 hours after the onset.

Next morning, Jan. 23, 1920, temperature 106 and the pulse could not be counted.

Case terminated fatally Jan. 23, at 3 P. M.

MILWAUKEE COUNTY HOSPITAL. CLINIC OF L. M. WARFIELD.

Case 1. A white man, 30 years old, was admitted to hospital Nov. 13, 1919, complaining of paralysis. His family history has no bearing on the case. In his past history there was gonorrhea twice when 21 and 29 years old respectively. At the age of 19 he had a chancroid which was cured by salve. When 22 years old he had a hard genital sore which was followed six months later by a rash all over his body. He was given one injection of 606 and six months later when sore throat and mucous patches in his mouth appeared he was given another injection. He has had no symptoms since. On Oct. 1, 1919, a W. R. was three plus. His doctor gave him five injections of arsphenamine with a syringe. His illness began at the fifth injection, Nov. 8, 1919, in the doctor's office immediately after the injection of a concentrated solution. He felt weak. He rested on a lounge for a while and was then taken home in an automobile. That night he was in a semiconscious state and next morning found that he could not use the left side of his body. He also had severe headache over the right side of his head.

Examination revealed a well nourised, well muscled man who answered questions at times quickly, at times with much hesitation. Pupils were medium sized, reacted to both light and accommodation, the right reacting a trifle more sluggisly to light than the left. Ptosis of left upper lid and flattening of nasolabial fold with paralysis of seventh nerve and drooling from left side of mouth. No strabismus noted. Tongue protrudes to left. Chest, heart and abdomen showed no abnormalities. Blood pressure was 118-88. There was a semi-flaccid paralysis of left arm and leg with active knee jerk. Babinski, Gordon, Chaddock and Oppenheim. The right knee jerk was not obtained. Sensation on the whole left side was slightly diminished. His speech was thick. There was incontinence of urine and retention of feces. He had to be fed for several days. On admission there was albumen in the urine which disappeared in a few days.

The spinal fluid was negative to all tests. There were two negative W. R. on Oct. 15 and Nov. 6 with two antigens.

By the 29th of November he was showing improvement. The left pupil was slower in reacting to light than the right and at times the hearing seemed imperfect. The tongue still deviated to the left.

Eyeground examination showed some clouding of both discs, suggesting slight intracranial edema. On Dec. 4 the paralysis was more spastic. The sensation to touch on the left arm is absent from the shoulder down. Pain sense was present only on back of upper arm to slight extent. Chest and abdomen sensation less on left than on right. The left trunk reflexes were slightly less active than the right. On the left leg the reflexes were all exaggerated with a very positive Babinski. He was talking and swallowing better. On the 8th he moved his leg freely, the arm did not drop so limply. The face muscles could be moved. He could not altogether control the urine and feces. He was quite emotional at times resembling a patient with bulbar paralysis.

On his discharge Feb. 2, 1920, he was still dragging the left leg slightly, but otherwise had recovered completely. No special treatment was given to him. We felt that Father Time alone could cure him. All we could do was to see that he had food and care.

DISCUSSION.

Mild reactions following the intravenous injection of arsphenamine are not unusual. Frequently there is flushing of the face, increase in the pulse rate, nausea and vomiting. This group of symptoms has been called "nitritoid crisis." It does not appear to be due to previous sensitization with the arsphenamine, but rather to the peculiarity of the serum of some people to precipitate with the drug in vitro.

Much nonsense has been written about the necessity of using double distilled water, water distilled in glass, etc., etc. Everyone will agree that the acidity of the solution adds to its toxicity. *It must be alkaline before injection.* And it must not be allowed to stand for more than two hours before using. Further, it is risky to throw into the circulation a concentrated solution of .1 gm. of arsphenamine to 4 or 5 c. c. as some have recommended. With the neo-arsphenamine the condition is different. A concentrated solution may be given by means of a large syringe. For the arsphenamine it is safer to use 20 c. c. of diluent to .1 gm. to have the solution warm, alkaline, and to introduce it slowly. Fewer reactions will result if the technique is carefully carried out.

Hemiplegia following injection of arsphenamine is exceedingly rare. In a recent report of 25,000 injections among 3,000 men no case of paralysis was seen. Among many hundreds of injections at the hospital we have never had any reaction more serious than a nitritoid crisis or fever for a day.

In this case we do not know whether the solution was properly prepared. It was given in concentrated solution. We believe that the lesion was probably rupture of a miliary aneurism near the internal capsule which was extensive enough to involve the sensory fibres. Or this may have been one of those cases described where a gumma suddenly broke down under the influence of the drug. The so-called "nerve recurrence" has been explained in somewhat this way. Probably the injection was the exciting cause which produced sudden increase of blood pressure. We doubt whether the lesion could have been in the pons. Such lesions are usually fatal. Such an accident as this draws attention to the fact that arsphenamine is not entirely devoid of harm. It is arsenic. Arsenic is a tissue poison. It is well to have this in mind when administering antisyphilitic treatment.

CASE 2. A white girl, aged 29 years, married, entered hospital Dec. 6, 1919, complaining of paralysis of right side. Her family history was negative. In her past history there were numerous attacks of sore throat between the ages of 15 and 18 years, the attacks lasting three to four days. She had erysipelas when 15 years old. In 1914 she had an attack of acute articular rheumatism of two months duration from which she apparently made a good recovery. She has had no return of rheumatism. In October, 1918, she was ill one week with influenza. In October, 1919, she was operated upon for acute appendicitis and was in a hospital nine days. Three days after leaving the hospital she suddenly developed complete paralysis of the whole right side, including the face.

On examination she was a poorly nourished girl. The pupils were equal, round, and reacted normally. There was slight flattening of the right nasolabial fold with dropping of the right corner of the mouth and slight tremor of the tongue. The tongue protruded in the median line.

The right arm was contracted and spastic. There was little voluntary movement. The reflexes were exaggerated. Sensation was normal. The left arm was normal. The right leg was not so spastic. There was no motion of the lower leg and only slight of the thigh. The foot was held in equinus position. All reflexes were exaggerated with positive Babinski and patellar and ankle clonus. Sensation was not affected. The left leg was normal.

The lungs were normal. The apex beat of the heart was in the fifth interspace 9 cm. from the midsternal line. There was a presystolic thrill with a loud presystolic rumble and a ringing first sound heard at the apex. At the base the sounds were clear with accentu-

ation of the pulmonic second. Except for the scar of the appendix operation the abdomen was normal.

The urine was normal, the W. R. was negative. The blood pressure was 100-60.

She was discharged Jan. 13, 1920, having recovered almost complete use of the right leg, except for slight dragging of the foot, and partial use of the right arm.

Again Father Time assisted notably in the treatment.

DISCUSSION.

This was evidently an embolus which was torn from the mitral valve and lodged in the left cranial artery supplying the fibers of the internal capsule. It is difficult to say how the appendix operation affected this accident, in fact, whether it played any part at all. Thrombosis of the femoral vein has followed an operation of appendectomy, but no embolus could have passed through the lung capillaries, had such embolus come from a thrombus in a vein in the leg. She had a typical mitral stenosis of long standing. Was the acute appendix caused by the same organism which gave her the endocarditis and was there a fresh crop of vegetations on the mitral valve during the appendicitis? We do not know. It seems not unlikely in view of what happened. Some have noted an increase in appendicitis during an epidemic of tonsillitis or other upper respiratory infections. There is a connection between tonsillitis and endocarditis. At least one organism may cause infection of tonsils and valves. Some have held that this organism also causes appendicitis, so it is not after all an imaginary conception that this girl had slight exacerbation of her endocarditis during the appendicitis.

Case 3. A schoolgirl fourteen years of age presented herself for diagnosis to the Milwaukee Clinic on November 17, 1919, complaining of pain, weakness and wasting of the muscles of the left arm. She had always been well, had lived in the country and was a well grown, well nourished girl.

Her trouble began about two years before, when she noticed the ring finger on the left hand turned white, after a while the color returning. This was especially noticeable during cold weather. During the past year gradually the entire hand underwent the same changes, becoming white and feeling dead and numb, then after warmth and friction again becoming pink. The tip of the middle finger is beginning to show some discoloration and the patient has a great deal of pain now, which is constant, with numbness and loss of sensation, particularly below the elbow. She had been diagnosed neuritis and had been treated for it, but the condition was becoming worse. There was no other complaint.

On physical examination the tonsils were very much enlarged and congested; there were several decayed teeth; there were no enlarged lymphatic glands and the thyroid was not increased in size. Nothing abnormal was found in the lungs, the heart, or the abdomen. The knee reflexes were normal and the right arm reflexes were normal. The left triceps was slightly present, the left radial absent. There was distinct pulsation in the supraclavicular space near the inner end of the clavicle. The brachial, radial and ulnar pulses were absent on the left arm. The right upper arm measured 25 cm., the left 24 cm. The right forearm 21 cm., the left forearm 20 cm.

Urinalysis and blood examination were negative.

In looking for the probable cause for such a condition in the child the most probable condition appeared to be something which was pressing upon the artery in the neck. With this thought in mind an X-ray picture was made of the cervical and upper dorsal region. This showed no cervical ribs, which were suspected, but revealed a curious anomaly of the left first rib, which was shorter than normal, more acutely bent and rested upon the second rib not, as normally, articulating with the sternum. Operation was advised and performed by Dr. W. C. F. Witte.

This consisted, in brief, in making an incision just posterior to the sternocleidomastoid muscle across the supraclavicular space. It was found that the first rib was firmly fixed to the second, that the subclavian artery and one of the trunks of the brachial plexus were stretched over this rib so that the blood supply was completely cut off distally. Upon clipping the rib near its vertebral attachment and chiseling it off from the second rib the artery and nerve fell back into a sort of hollow.

X-rays taken later show the stump of the first rib. Two weeks after the operation the entire hand had a good, red color with a capillary circulation, but felt somewhat colder than the right hand. Sensation was improved over both anterior and posterior surfaces of the fingers and hand, except the middle finger. There is very little sensation in the middle finger.

DISCUSSION.

This case represents a very curious anatomical anomaly, namely, an aberrant first rib articulating on the upper surface of the second rib. It was reasonable to suppose that the child had a cervical rib which in some way had pinched the subclavian artery and her symptoms were those of loss of blood supply. It is a very interesting fact that cervical ribs may be present from birth and the first symptom may not show itself until after the age of thirty. Frequently there is the story that the person moves the arm in all directions but one, and when the arm gets in that particular position there is either sudden pain, or sometimes sudden weakness. Occasionally the cervical ribs may interfere with the function of the nerve plexus. Not infrequently they interfere with the

circulation, due to the fact that the subclavian artery, which normally passes over and grooves the first rib, is lifted up and stretched so that the lumen is occluded.

We do not expect this girl to recover at once and it is possible that she may never recover completely the circulation in her hand. However, there is some improvement and we expect that as time goes on there will be further improvement and that symptomatically she will be well.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

THE BUREAU OF CHILD WELFARE AND PUBLIC HEALTH NURSING.

BY W. D. STOVALL, M. D.,
MADISON.

The State Board of Health to meet the demands made upon it by the women and many other citizens of the State have established a Bureau of Child Welfare and Public Health Nursing. Mrs. H. H. Morgan, who was Chairman of the Women's Committee of the State Council of Defense, was secured as director of this division of the Board's activities. Under Mrs. Morgan's direction the work has taken form and is beginning already to exercise a great influence upon the problems of infant care and child hygiene.

I have been impressed for some time with the close relation between the medical profession and health activities of all kinds. It seems to me that the medical men or at least many of them have not realized how vitally important to them are the health programs of the State. As we make progress in our methods for disease prevention we come to the inevitable conclusion that in the last analysis the treatment of the individual is the solution of many of our problems in disease prevention. If the individual is properly taken care of the public is automatically protected. It is the same here as in finances—take care of the small things and the big things will take care of themselves; save the nickels and dimes and the dollars will take care of themselves. As a rule general plans which have for their purpose the protection of whole communities from epidemic diseases are not carried out in detail enough to reach down to the heart of the problem, the care for the individual sick. Because the proper care of the sick is the final solution of many preventive medicine problems, the medical profession is most vitally concerned in the development of public health activities.

The physician must interest himself in public health activities then for two reasons: first, because of public problems requiring solution by men who have the proper training, and second, because of private interests. The protection of private interests is most legitimate if at the same time the public is properly looked after. Public interest and private interest are not incompatible. Both can be preserved by a wise and farsighted plan of cooperation between the organized medical profession and authorized public health agencies.

The Bureau of Child Welfare and Public Health Nursing is very anxious to establish a vital connection with the medical men of the State. It needs their assistance and the medical men also need to be identified with its work and to be considered in its councils.

I have secured from Mrs. Morgan an outline which shows just what she is doing and what she intends to accomplish. This outline is given below in order that we may all be informed about the activities of the new department.

Outline of Activity of the Department of Child Welfare and Public Health Nursing of the State Board of Health:

To follow up the work begun during the war in the Children's Year Campaign, which demonstrated to the people of the state the need for child health work.

To emphasize the importance of improving the health of children and the value of keeping children well.

To secure one hundred per cent birth registration.

To enroll mothers and young girls in health study groups, so that all women may be informed on the care of mothers and infants.

To encourage the women of local communities to establish Children's Health Centers and to place scales in rural schools with proper charts for keeping records.

Child Hygiene might be listed under four divisions:

(1) Prenatal care of mothers.

(2) Infant welfare from birth to two years of age.

(3) Pre-school age work, including children from two to six years of age.

(4) Inspection of school children.

The inspection of school children will be carried on by County and School nurses, and physicians. For the first three named divisions, the Bureau feels that the best results are obtained by the personal advice given by the Public Health Nurse in talks and demonstrations to groups, and in homes.

The Public Health Nurses, of which there are still too few, must be relieved of organization and clerical work. They can and will advise with local health groups whenever possible.

The Bureau is suggesting the establishment of Children's Health Centers by local communities. These may well be started by Child Welfare Committees of Women's Clubs, former Councils of Defense, or by new groups of women. Such groups can make the work of the county nurse more far-reaching by studying their local health problems, and by having everything ready for the nurse when she visits the community.

These health centers may be started very simply, sometimes with the establishment of a Loan Closet and gradually adding other features.

A pamphlet on Community Health Centers is being prepared by the State Board of Health and tentative outlines of the Health Center and Loan Closet may be secured at any time.

The State Board of Health will after inspection of Health Centers, issue permits for their continuance and give every assistance possible in the operation of them.

PUBLIC HEALTH NURSING.

General Aims:

1. To standardize the work of the county nurses.

(a) Prescribe various report blanks and cards.

(b) Prepare general outline of work.

(c) Receive and examine monthly reports from nurses.

(d) Advise county nurses.

2. To establish a traveling library for nurses.

3. To stimulate more nurses to take up public health work.

4. To improve standards of public health nursing education.

(a) Urge all training schools for nurses to include public health work in their courses.

(b) Encourage qualified young women to enter training schools giving such courses.

5. To establish a complete nursing service with a state director and district supervising nurses.

The above outline provides for the organization of a Community Health Center. The detailed outline for the organization of one of these centers is given below:

COMMUNITY HEALTH CENTERS.

I. Community Organization.

A. Child welfare committees of organizations such as former Council of Defense, Women's Clubs, or others, in:

1. County
2. Township
3. Village
4. School district.

B. Functions.

1. To secure the enrollment of mothers and young girls in health study groups.

2. To secure 100% registration of babies born in their district.

3. To assist at the health center in receiving mothers, filling out records, weighing of children.

4. To confer and advise with the nurse on general and special health problems of the community and on local health plans and programs.

5. To cooperate with the schools in health activities.

6. To secure enrollment of prenatal cases.

7. To establish and maintain a loan closet.

8. To distribute literature on health matters.

II. Health Services which may be rendered at Center by Nurse with or without Medical Attendant.

A. Periodic weighing and inspection of children.

B. Consultation on care, feeding and general hygiene for children.

C. Consultation on hygiene of pregnancy.

D. Demonstration of preparation of foods, preparation of maternity supplies, simple procedure in home care of the sick.

E. Display of health exhibits.

F. Health talks to groups of children, young girls and parents.

G. Health talks and demonstrations to study groups.

III. Attending Physicians.

A. Specialists employed by the State Board of Health to hold conferences once in three months;

these conferences may constitute an institute for local physicians.

B. Members of local medical organization to rotate on service at station.

C. Local medical organization to elect member to serve at station conferences.

D. Station may operate without physician other than as provided under "A," rendering educational service and nursing service only.

IV. Standards and practice of Health Services rendered by Nurse to be defined by the Division of Child Hygiene and Public Health Nursing, of the State Board of Health, and to be approved by State Medical Society.

A. For children.
1. Weighing.
(a) Individual weight chart.
(b) Standard score card.
2. Inspection.
(a) Throat, teeth, skin, hair.
(b) Test of vision, hearing.
3. Instruction.
(a) Care.
(b) Feeding of:
Babies under 1 year
Breast
Artificial
Weaning
Children over 1 year
(c) General Hygiene.

B. For pregnant mothers.
1. Instruction.
(a) General hygiene.

C. Standing orders in cases of acute illness pending the arrival of a physician.

The outlines given above have not included in detail the duties which the County Public Health Nurses are expected to perform. The law requiring each County to employ such a nurse also designates certain lines of work which she is expected to carry out. When these are all set down the list looks alarming to a prospective applicant. Also any one of the duties which the law prescribes is enough to keep one person busy all the time. In order to help the nurses, where there are only one or two in the County, to organize their work the Bureau has outlined a plan which will be of service to the nurses in work started and in carrying out their various duties.

It has been realized that some supervision and correlation of the work of the public health nurses is necessary. For this purpose Miss van Kooy has been secured as field supervisor. She will consult and advise with the nurses and in every way assist them in meeting the problems arising in the various Counties.

PLAN OF PROCEDURE FOR COUNTY NURSES.

Preliminary.

Meet with Health Committee.

Call on Physicians and Dentists.

Call on Superintendent of Schools and secure an opportunity to meet with all of the teachers.

Try to meet men and women active in the community, such as Presidents of Clubs, Parent-Teacher Associations, Board of Commerce, and so on.

Secure cooperation of newspapers by giving interesting bits of information without betraying confidences.

School Work.

A. Attend meetings of school teachers and explain your work to them.

B. Inspect all school children as rapidly as possible the first year.

Send disease record blanks to the teachers to have them filled out by the parents before your first visit to school. Always send notice of your proposed visit to a school and urge all mothers to be present.

Give health talks to children and mothers. Instruct mothers while making inspections.

C. Make recommendations regarding defects to parents. Avoid making diagnosis. Even though parents are present, make out the notification slips and ask to have them returned with the family physician's, dentist's, or oculist's signature.

D. Urge teachers to be on the lookout for communicable diseases and follow the Board of Health rules regarding exclusions.

E. Urge teachers to institute Health Crusades in all schools. Suggest poster competition between classes, and so on.

F. Urge the purchase of scales by all schools and the use of class room charts for weights and measures.

G. Make as many home calls as possible while in a school district, staying two, three, or more days in the district if necessary. Make friends with all of the family and discuss the health of

all. Above all be *tactful* and do not give too much advice on the first visit.

Child Welfare and Prenatal Work.

A. Wherever local groups are organized for health work, use them to the fullest extent. Have them bring in mothers and children when you are to visit the community; do the weighing and measuring; arrange group meetings for you to talk, and so on.

B. Make charts of Infant Mortality for each township.

C. Secure the cooperation of local or county Dietitian to meet these groups with you.

Tuberculosis Work.

A. Make a list of all reported deaths for several years past, from lung and other tuberculosis.

B. When you are in a community where such deaths have occurred, visit the families to find out whether there are other cases and what care they are receiving. Give demonstrations in the home, on care of patient and diet. Urge sanitarium care. Keep in touch with the family. Always see the physician first and obtain his cooperation.

C. Report to Health Officer every case or suspected case you find.

Communicable Diseases.

When an epidemic of communicable disease threatens, go to the locality to aid in checking it.

Health Centers.

We are urging the establishment of Health Centers or Health Groups in all villages and townships. Wherever they exist, try to make regular visits to them always notifying the secretary so that groups may be ready for you.

Social Work.

Report all cases needing material relief to proper agencies. If there are no such agencies, find other means.

Juvenile.

A. Report cases of delinquency coming under your notice to the Judge of Juvenile Court. You may be asked to assist in follow up cases.

B. Familiarize yourself with the state compulsory school attendance law.

Child Labor Laws may be obtained from the Industrial Commission.

C. Truancy and non-attendance.

Report cases of truancy coming to your attention, to the officer.

D. Nurses should be familiar with the state institutions where care is given to crippled, blind, deaf and mute children. Nurse must familiarize herself with the sources where help may be received outside of her own county, also with state laws pertaining to the betterment of community life.

Public Speaking.

Make an effort to comply with every request to speak to groups. It is an opportunity to enlist the much desired interest in public health work. Stress the fact that public health work is not "charity" work, it is health education for all.

Speak simply of your work, your hopes and plans, taking the groups into your confidence and making them feel that it is their work also.

Records.

It is essential for the further development of Public Health work, that complete records be kept. Chapter 311, Laws of 1919, makes it necessary for the State Board of Health to "Prescribe model forms for instruction, test cards, blanks, record books and other useful appliances."

Personal Improvement.

It is important that a nurse continue her studies as well as have proper recreation. If the local libraries do not have books which are desired, write to the State Library Commission, Madison, to send them to you.

Subscribe for the Public Health Nurse and the American Journal of Public Health.

Write to the Bureau of Nursing for any information you desire, or whenever any problem arises on which you need advice.

Mental Hygiene.

SOME CONSIDERATIONS OF X-RAY LABORATORY TECHNIQUE.

BY H. CURL, M. D.,

X-RAY DEPARTMENT, UNIVERSITY OF WISCONSIN CLINIC.

There is probably no form of laboratory work that has, in the past, been more often misinterpreted, misunderstood and condemned than Roentgenology. This has been due in a large part to a lack of knowledge of the fundamentals of this subject by the profession and in part to the early forms of apparatus employed.

Only a few years ago practically all Roentgenological examinations were confined to the larger

hospitals or clinics in the cities and to a few private laboratories. To the general practitioner the Roentgen or X-Rays were something to read about and to hope for, while to the lay public it was the mystery of mysteries in medicine. It was not deemed of sufficient importance by the faculties of Medical Schools to call for more than passing comment, and its possibilities were seldom if ever mentioned in the Medical and Surgical clinics.

With the coming of the World War, however, the Roentgen ray was given a prominent place by the Medical Department and hundreds of physicians were hastily trained to carry on this branch of work. Thus it was demonstrated to these men as well as to hundreds of others in the service, the importance and necessity of the X-ray as an adjunct to physical diagnosis. In order, therefore, to keep up with the procession, it behooves the rest of us to acquaint ourselves with the possibilities and limitations of Roentgenology in the diagnosis of disease.

With the great advances that have been made in our knowledge of the Roentgen rays, and with the more marked improvement in the apparatus it will be but a short time until every physician will, or should at least, have access to an X-ray machine, either in his own office or in a nearby hospital or clinic. With this thought in mind it is our desire through the pages of the Journal to discuss some of the more important matters that should be kept in mind when submitting a patient to a Roentgen examination. If by this means we enable the physicians of the state to obtain better results with their Roentgen examinations our single hope will have been realized.

Our experience in a Roentgen laboratory has revealed that many physicians either do not know, or we would rather believe, do not stop to think, of the fundamental principles involved in a Roentgen examination. Thus we have patients coming to the laboratory for a "picture" of the tonsils and adenoids; a "picture" of the womb; a "picture" of the body, because of an indefinite pain; or a patient will come in at 10 o'clock for a picture of the stomach and want to catch a 12 o'clock train. In a majority of cases they have had no preparation whatever, have had a large breakfast before leaving home and often a lunch after getting off the train. In the latter case it does not mean, necessarily, that the physician referring the case does not know, but it does mean that if he knows, he has failed to impress upon the mind of the patient the necessity of preliminary preparation.

The Roentgen ray is not infallible in making diagnosis. No one would diagnose an abscessed appendix on the leucocyte count alone, but taken with the other findings in the case the leucocyte count is very valuable. Thus with the possible exception of fractures and dislocations, a diagnosis is seldom, if ever, made by the Roentgen examination alone. Taken with the physical examination and other laboratory findings a positive diagnosis can often be made that would otherwise have been impossible. The reason for this is obvious if we consider the fundamental principles involved in a Roentgen examination. What, in other words, constitutes a Roentgen examination? Such an examination is nothing more than obtaining a shadow picture by means of invisible light rays that are able to penetrate the tissues of the body, producing a shadow on a fluoroscopic screen or on a photographic plate. The shadow thus produced, whether on screen or plate, is directly proportional to the atomic weight of the tissues and the thickness of the part through which the rays pass. The greater the atomic weight of the tissue or the greater the thickness of the part, fewer rays are permitted to pass and the darker the shadow will be on the fluoroscopic screen or the lighter the shadow on the plate or negative. The reverse of course being true for tissues less dense. Thus it is that bones are so easily contrasted with the soft tissues of the body, and that bones of the arm or leg are more easily contrasted than bones about the hip joint.

With this fact in mind it is easy to understand why it is so difficult to differentiate the abdominal organs which are of a relative density, and why this is made doubly difficult or impossible when the entire intestinal tract is filled with partially digested food and fecal matter. Not forgetting too that the intestinal contents may contain fruit pits or other dense substances that may cast a shadow not unlike that of a kidney or urethral stone, in which case the interpretation of the shadows may be erroneous and misleading, and it would have been better for all concerned had the examination not been made.

With these few points in mind it will readily be understood that the preparation of the patient is the first and a most necessary step for a satisfactory examination. And not only physical preparation as alluded to above but a mental preparation

as well, so that the patient or some responsible party interested in the case should know just what is to be expected from such examination.

The details of preparation, method of examination, and interpretation should, we feel, be left until the discussion of the various anatomical systems into which the body is naturally divided for all examinations.

The bones and joints. Among men in general practice the Roentgen ray has been used more extensively for the examination of the bones and joints than for any other purpose. It is easier to obtain good plates of the bones than it is of the soft tissues and the diagnosis is generally more easily arrived at. With but few exceptions no special preparation is necessary.

In the examination of the long bones two plates should always be made. For the second plate the part should be rotated to a right angle from the position for the first plate. This will give two plates through different diameters of the bone at right angles to each other. Such plates are usually spoken of as anterior-posterior and lateral views. Many cases, no doubt, have been diagnosed negative for fracture from a single plate, when another view taken at a different angle would have revealed a fracture line. This is true especially in green-stick fractures, impacted fracture or complete fracture with no dislocation of the fragments. We have a number of plates on file where one view appeared perfectly normal while from a different angle the lesion was revealed. In addition to being more certain of showing the pathology, two plates taken in this manner will also show the amount and direction of displacement of fragments.

What has just been said in regard to fractures, is also true of dislocations of the small joints. Just recently I saw a single anterior-posterior view of a finger which showed nothing abnormal. As the symptoms did not improve in this case, a subsequent examination was made in which two views were obtained. The lateral view showed the distal phalanx displaced forward the full width of the bone. There was also some over riding of the parts.

In the examination of the hip or shoulder joint or an examination of the spine or pelvis, where the anterior-posterior and lateral views are difficult or impossible to obtain, a stereoscopic pair of plates should always be made. By this method the bones stand out in perspective and the true relation of one bone to the other is obtained. In a single plate of these parts, the shadow of one bone superimposed upon another will often simulate a fracture. With a stereoscopic pair of plates this could not occur.

In periostitis, osteo-myelitis or other destructive processes of the bones or joints it is also essential that two plates at right angles to each other or a stereoscopic pair of plates should be made. Otherwise the true extent of the involvement cannot be determined.

The examination of the spine and pelvis calls for special consideration. Here it is almost, if not quite, impossible to obtain two plates at right angles to each other and we feel here that a pair of stereoscopic plates should always be obtained. In the upper cervicle region it is difficult to obtain an anterior-posterior view owing to the shadows cast by the head and a lateral stereoscopic pair of plates should be made. In the lower cervicle the reverse is true. The soft tissues in the supra clavicular region prevents plates being placed low enough laterally to get the two lower vertebrae and anterior-posterior plates must be made.

The thoracic are the most difficult of all the vertebrae to radiograph. To turn the patient on the side for a lateral view brings the vertebrae too far away from the plate and a large distorted shadow will result. In the anterior-posterior position the heart and large vessels overlay all except the upper two or three. It is almost impossible to penetrate the heart and great vessels and get a clear outline of the bodies of the vertebrae. The best results will perhaps be obtained by an anterior-posterior oblique position. After placing the patient on his back, he is asked to roll slightly to the left. The rays are directed perpendicular above the plate and just within the nipple line. In this way the heart and large vessels are outside of the line of vision, the vertebrae are close to the plate and we have a shadow that is but little distorted in outline.

In the examination of the lumbar and sacral regions the anterior-posterior position is obviously the only one that is practical. Here again stereoscopic plates are essential. In this region it is very important to have the patient thoroughly prepared before the examination. If the intestinal

tract is filled with partially digested food or with fecal matter, the plates at best will be very unsatisfactory and will probably be worthless from a diagnostic standpoint. If the patient is to be examined in the morning, their meal on the evening preceding should consist of a soft diet. Before retiring a cathartic should be taken that will insure complete evacuation by the following morning. If on the following morning there is any doubt as to the efficiency of the cathartic a plain enema should be used until the water returns clear. The patient should eat no breakfast other than a cup of coffee or tea without sugar or milk.

The results obtained after such a preparation will more than justify the extra trouble entailed. And if the patient is made to understand from the first that this is absolutely essential if an examination is to be made, a very large percentage will be very glad to cooperate. On the other hand if they are asked in a timid apologetic manner to go through with this routine, they will often refuse, if not openly at least covertly, and an unsatisfactory examination results. In which case you have wasted your time, the patient's time and the cost of the X-ray plates.

In the examination of the small bones of the hands and feet the two way plates are seldom of value because of the number and arrangement of the bones. In injuries to these parts stereoscopic plates should always be made.

Every case of bone or joint injury and every case of suspected fracture should be submitted to a Roentgen examination. At least two plates should be made, either at right angles to each other or stereoscopically. In case a fracture is present a second examination should be made after the parts have been reduced and the cast or splints have been applied. The ordinary board splints offer no obstruction to the rays and it is possible to penetrate the ordinary plaster cast. If this is done many of you will doubtless be surprised at some of your reductions.

And let us emphasize again that we use plenty of time and plenty of plates on every case, so that we can be positive that we are not passing over something that should have been detected. And that every case of lumbar or pelvic examination should be preceded by a thorough preparation of the patient. Every case that is worth doing is worth doing well.

PROGRAM FOR 1920 OF WISCONSIN STATE CONFERENCE OF SOCIAL WORK.

The Wisconsin State Conference of Social Work was started in 1882, by the State Board of Charities and Reform, and held meetings once a year until in 1900, when they were allowed to lapse. It was re-organized in 1911 and since that date meetings have been held annually, in different cities of the state.

So much good has resulted to the state through these meetings or conferences, that at the last meeting in October, 1919, it was decided that the work should be broadened and strengthened in such manner that every county in the state (and as far as possible every community in every county) may be developed along lines of social and public welfare, through knowledge of the experience of others, as well as through local organization.

At district conferences to be held in different parts of the state through the year, local needs of communities both large and small will be considered; such, for example, as the problems of the dependent and neglected children, the "tramp" families, the traveling girl, the delinquent girls and women, the feeble-minded, illegitimacy, contagious diseases and other health problems and many others; problems that can only be met properly when they have been carefully studied and public opinion educated and unified.

To carry out these plans a leader trained and expert in social service is needed, whose time and ability will be given to local communities throughout the entire state. Such a man, of several years experience, has been procured in Mr. Edward D. B. Lynde, whose knowledge and skill are vouched for by each community that he has heretofore served; he will begin active work with us on March 1st of this year.

Our new work must also be financed, for it is estimated that if we do work that is anything like thorough, the expense for the year will be not less than $10,000, and it is the intention to be both thorough and earnest. This will not be a burden to any community if the collection of the fund is as wide as the proposed service.

The acceptance of membership of the Conference or of any of its committees will obligate no one in any way to solicit money; yet the Executive Committee will be very grateful to you if you are willing to help in your own community to raise its fair share of the fund needed. This kind of solicitation is necessary in starting any new endeavor, whatever may be expected when the work is successfully organized.

All members who desire may help to a small extent by taking a $5.00 sustaining membership instead of the $2.00 ordinary membership.

The doctor, it would seem, is not in high repute with Paddy. A man in Limerick went to the undertaker to order a coffin for Mike Connell. "Dear me," said the undertaker, "is poor Mike dead?" "No, he's not dead yet," answered the other; "but he'll die tonight, for the doctor says he can't live till morning, and he knows what he gave him."—*Mass. Med. Jour.*

PRINCIPAL CAUSES OF DEATH.

CENSUS BUREAU'S SUMMARY OF MORTALITY STATISTICS FOR 1918.

Washington, D. C., February 2, 1920.—The Census Bureau's annual compilation of mortality statistics for the death registration area in continental United States, which will be issued shortly, shows 1,471,367 deaths as having occurred in 1918, representing a rate of 18.0 per 1,000 population, the highest rate on record in the Census Bureau—due to the influenza pandemic.

INFLUENZA AND PNEUMONIA (ALL FORMS).

Of the total deaths 477,467, or over 32 per cent, were due to influenza and pneumonia (all forms), 380,996 having occurred in the last four months of the year during the influenza pandemic. The rate for influenza and pneumonia (all forms) is 583.2 per 100,000. Influenza caused 244,681 deaths and pneumonia (all forms) 232,786, showing rates of 298.9 and 284.3 per 100,000, respectively, these being the highest rates which have ever appeared for these causes. The rate in 1917 for influenza was 17.2 and for pneumonia (all forms) was 149.8. In fact the difference (416.2 per 100,000 population) between the 1917 and 1918 rates corresponds with the excess mortality which occurred in the last four months of the year from the influenza pandemic.

The next most important causes of death were organic diseases of the heart, tuberculosis (all forms), acute nephritis and Bright's disease, and cancer, which together were responsible for 391,391 deaths, or nearly 27 per cent of the total number.

The death registration area in 1918 comprised 30 states, the District of Columbia, and 27 registration cities in nonregistration states, with a total estimated population of 81,868,104, or 77.8 per cent of the estimated population of the United States. The Territory of Hawaii is now a part of the registration area, but the figures given in this summary relate only to continental United States.

The deaths from organic diseases of the heart numbered 124,668, or 152.3 per 100,000 population. The death rate from this cause shows a slight decrease as compared with 1917, when it was 153.2 per 100,000. There have been fluctuations from year to year, but in general there has been a marked increase since 1900, the earliest year for which annual mortality statistics were published, when the rate for organic diseases of the heart was 111.2 per 100,000 population.

Tuberculosis in its various forms caused 122,040 deaths, of which 108,365 were due to tuberculosis of the lungs. The death rate from all forms of tuberculosis was 149.1 per 100,000, and from tuberculosis of the lungs, 132.4. The rate from tuberculosis of all forms declined continuously from 200.7 per 100,000 in 1904 to 141.6 in 1916, the decrease amounting to nearly 30 per cent; but for 1917 and 1918 increases are shown, the 1918 rate being somewhat higher than the rate for 1917, when it was 146.4. Until 1912 more deaths were due to tuberculosis than to any other single cause, but in that year and during the period 1914-1918 the mortality from tuberculosis was less than that from heart diseases.

Bright's disease and acute nephritis caused 79,343 deaths, or 96.9 per 100,000. This is a noticeable decrease as compared with 1917 when the rate was 107.4 per 100,000.

Cancer and other malignant tumors were responsible for 65,340 deaths, of which number 24,783, or nearly 38 per cent, resulted from cancer of the stomach and liver. The rate (79.8) is a decrease from 1917, when it was 81.6. With the exceptions of the years 1906, 1907, 1911, 1917, and 1918, there has been a continuous increase in the death rates from these diseases.

Apoplexy was the cause of 64,904 deaths, or 79.3 per 100,000. This rate, too, declined, having been for 1917, 82.9.

Diarrhea and enteritis caused 59,109 deaths, or 72.2 per 100,000, a decrease from the rate (79.0) for 1917. More than four-fifths of the total deaths charged to these causes in 1918 were of infants under two years of age.

Arterial diseases of various kinds—atheroma, aneurism, etc.—resulted in 19,027 deaths, or 23.2 per 100,000, which rate is somewhat less than that (25.3) for 1917.

Deaths from diabetes numbered 12,927, or 15.8 per 100,000. The rate from this disease increased almost continuously from 9.7 in 1900 to 17.0 in 1916, but since 1916 a slight decrease for each year is apparent. The rate for 1917 was 16.9.

Bronchitis caused 12,783 deaths, or 15.6 per 100,000. This rate is lower than that for any preceding year. The proportional decline from 1900, for which year the bronchitis rate was 45.7, to 1918, amounted to 66 per cent.

The rate for diphtheria is 13.8, representing 11,280 deaths. As compared with 1917, when the rate was 16.5, there is a perceptible decrease.

TYPHOID FEVER.

Typhoid fever resulted in 10,210 deaths, or 12.5 per 100,000. The mortality rate from this cause has shown a remarkable reduction since 1900, when it was 35.9, the proportional decrease amounting to 65 per cent. This highly gratifying decline demonstrates in a striking manner the efficiency of improved sanitation and of the modern method of prevention—the use of the antityphoid vaccine.

WHOOPING COUGH AND MEASLES.

Whooping cough and measles together were responsible for 22,534 deaths of adults and children, or 27.6 per 100,000. The rates for these diseases were respectively, 16.8 and 10.8 as compared with 10.4 and 14.3 for 1917.

EXTERNAL CAUSES.

Deaths due to external causes of all kinds—accidental, suicidal, and homicidal—numbered 82,349 in 1918, corresponding to a rate of 100.6 per 100,000 population. This is a noticeable decrease, the rate for 1917 being

(Continued on page 439)

PHYSICIAN'S REPORT.

Statistical Study of Tuberculosis with Pregnancy.

Milwaukee Medical Society, Milwaukee, Wis.

Patient's initials..... Age..... M. S. W. Yrs.....

Tuberculosis Diagnosed:

Before marriage—yes..... How long..... Date.....

no

Before pregnancy—how long..... Date.....

During pregnancy—period of..... Date.....

After pregnancy—how long..... Date.....

No. of healthy children.....

No. of tuberculous children.....

No. of pregnancies..... Date of last pregnancy.....

No. of pregnancies after diagnosis of T. B.....

Type of tuberculosis.....

Tubercle bacilli found

yes..... date..... Numbers.....

no, diagnosis based on.....

Patient treated at

home, how long.....

hospital, how long.....

sanatorium, how long.....

Management of pregnancy after diagnosis of tuberculosis.....

Condition during pregnancy.....

Patient aborted, date..... 19.....

Spontaneous, complete .....

incomplete .....

Therapeutic, method of.....

Criminal, complete .....

incomplete .....

How long pregnant.....

Effect of abortion on course of tuberculosis.....

Patient delivered, at term..... date .....

premature ..... date .....

normal .....

forceps, high..... mid..... low..... version

breech ..... cesarean section.....

labor induced ..... spontaneous .....

Anesthetic agent, ether..... chloroform .....

nitrous oxid-oxygen..... drugs.....

Complications .....Puerperium .....

Effect of labor on tuberculosis.....

.....

.....

Condition of child at birth.....

Subsequent evidence of T. B.

yes..... date..... no.....

Did mother nurse child—yes.....wet nurse.....

no

months artificial .....

Patient discharged as arrested, date..... 19.....

Patient discharged as improved, date..... 19.....

Patient last heard of, date..... 19.....

Condition .....

Child,

Healthy

T. B.

Sick

Died

Patient died, date.....

Cause of death.....

Was pregnancy or childbirth recorded as a contributory cause of death—

Yes

No

Remarks: .....

.....

.....

.....

.....

.....

.....

Date of report.....19.....

Signed.....M. D.

.....Street

.....City

.....State

Return to Dr. Oscar Lotz, Wisconsin Anti-Tuberculosis Association, 558 Jefferson Street, Milwaukee, Wis.

(Continued from page 436)

108.8. In fact, except for automobile and machinery accidents and injuries, all the external causes showed a general decrease in 1918.

The greatest number of deaths charged to any one accidental cause—10,330, or 12.6 per 100,000—is shown for falls.

Next to falls, the greatest number of accidental deaths —8,610, or 10.5 per 100,000—resulted from railroad accidents and injuries.

Deaths from automobile accidents and injuries in 1918 totaled 7,525, or 9.2 per 100,000 population. This rate has risen rapidly from year to year, which strongly suggests the need for better traffic regulations and better enforcement of those we now have.

Burns—excluding those received in conflagrations—were responsible for 6,638 deaths, or 8.1 per 100,000.

Accidental drowning caused 5,633 deaths, or 6.9 per 100,000. This rate is considerably less than that for any preceding year since 1910.

Deaths due to accidental asphyxiation (except in conflagrations) numbered 3,371, or 4.2 per 100,000. This rate is slightly less than that, 4.5, for the previous year, but is somewhat higher than the rate for any year during the preceding ten-year period.

Mine accidents and injuries resulted in 2,497 deaths, or or 3.1 per 100,000.

Machinery accidents caused 2,371 deaths, or 2.9 per 100,000, a rate greater than that for any year covered by the Bureau's mortality records.

Deaths resulting from street-car accidents numbered 2,366, corresponding to a rate of 2.9 per 100,000.

Deaths due to injuries by vehicles other than railroad cars, street cars, and automobiles numbered 2,337, or 2.7 per 100,000.

The number of suicides reported for 1918 was 9,937, or 12.1 per 100,000, the rate being the lowest shown for any year since 1903.

Other deaths due to external causes totaled 20,834, or 25.4 per 100,000.

VENEREAL DISEASE CONTROL ACTIVITIES.

During the fiscal year ended June 30, 1919, the Division of Venereal Diseases of the Public Health Service conducted a highly successful program for nation-wide control of venereal diseases. This campaign was conducted with physicians, dentists, druggists, nurses, medical and allied colleges, professional journals and advertising media throughout the country. This report gives some idea of one branch of the work that is being carried on by the Division of Venereal Diseases, as well as the methods which have been employed.

PHYSICIANS.

In order that physicians might be impressed with the seriousness of the problem of venereal diseases and realize their responsibility to the public in carrying out the control program by reporting such diseases coming to their attention, and also to give each physician an opportunity to secure a copy of the revised Manual of Treatment of the Venereal Diseases, a communication was sent to approximately 132,000 doctors in the United States.

This communication consisted of a letter, a bulletin (V. D. No. 35), "An Appeal to Physicians for Co-operation," and an agreement card. The letter asked for the co-operation of every physician in the control program, and promised a copy of the manual to each one who signed an agreement card. In the bulletin the physician's individual responsibility was pointed out, and it was made clear that the attitude of the medical profession as a whole would determine largely whether venereal diseases are to be brought under control.

Each physician was urged to sign and return the card whereby he agreed:

1. To report cases of venereal diseases in accordance with the laws and board of health regulations.

2. To secure prompt treatment for all venereal cases coming to his attention, either treating them himself or referring them to a clinic or physician known to be competent in the treatment of such cases.

3. Not to dispense medicines for venereal diseases except where they can not be obtained from a drug store; and not to recommend, prescribe, or sell any proprietary remedy marketed for the self-treatment of venereal diseases.

4. To give every venereal disease patient a circular of instructions, a supply of which is to be furnished free of charge by the Public Health Service or the State Board of Health.

As a result of this letter, agreement cards and favorable replies have been received from 60,666 physicians, or nearly 50 per cent of the medical profession of the United States. It is felt that this response is very gratifying and that the ultimate co-operation of the entire medical profession is assured.

In accordance with the usual policy of the Service, the cards of agreement received were forwarded to the state boards of health with a list of the physicians to whom the letter was sent. Each State board was asked to communicate with the physicians who have not responded and to secure their co-operation. It was suggested to each State that a supply of the manuals be purchased for distribution to those physicians who signed agreement cards. At the close of the year, June 30, 1919, 35 States had responded by purchasing 71,300 copies of this manual. Physicians in States which have not bought copies of the manual are receiving them from the Service.

BOOK REVIEWS

The Systematic Development of X-ray Plates and Films. By Lehman Wendell, B. S., D. D. S., Chief of The Photographic Work, instructor of Prosthetics and Orthodontia, College of Dentistry, University of Minnesota. Illustrated. C. V. Mosby Company, 1919, St. Louis. Price $2.00.

This little book embodies very well the technique of dark room procedure, and will do very well as a primer for one who wishes to engage in this work and to know something of the reagents he is handling and what the reactions mean.—*E. A. S.*

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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TERM EXPIRES 1925

5th Dist., W. F. Zierath - Sheboygan
6th Dist., H. W. Abraham - Appleton

TERM EXPIRES 1921

9th Dist., Joseph Smith - Wausau
10th Dist., R. U. Cairns - - River Falls

TERM EXPIRES 1924

3rd Dist., F. T. Nye - - - - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1920

7th Dist., Edward Evans - LaCrosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1922

11th Dist., J. M. Dodd - Ashland
12th Dist., Hoyt E. Dearholt - Milwaukee

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ROCK SLEYSTER, Wauwatosa
C. H. LEMON, Milwaukee

Alternates

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The Wisconsin Medical Journal, Official Publication

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Calumet	E. Rathert, Chilton	R. C. Meyer, New Holstein.
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Clark	H. H. Christofferson, Colby	E. L. Bradbury, Neillisville.
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Langlade	L. A. Steffen, Antigo	J. C. Wright, Antigo.
Lincoln	H. G. Hinckley, Merrill	D. B. Reinhart, Merrill.
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Wood	D. Waters, Grand Rapids	F. X. Pomainville, Grand Rapids.

SOCIETY PROCEEDINGS

MILWAUKEE MEDICAL SOCIETY

The regular meeting of the Milwaukee Medical Society was held in the society rooms, February 24, at eight o'clock. Doctors A. B. Schwartz and A. L. Kastner spoke on problems regarding the care of new born infants. The desirability of securing new quarters for the society was also discussed.

TWIN CITY MEDICAL AND DENTAL SOCIETY

The regular monthly meeting of the Twin City Medical and Dental Society was held February fourth at the Hotel Menasha. A banquet was served after which Doctor Spencer of the State Board of Health gave an interesting talk, on the influenza situation. He emphasized the necessity for reporting all cases of influenza and even cases only suspected of being influenza to the proper authorities in the epidemic.

MILWAUKEE OTO-OPHTHALMIC SOCIETY

At a meeting of the Milwaukee Oto-Ophthalmic Society, held February 6, at the University Club, the following officers were elected: President, Dr. G. I. Hogue; Vice-President, Dr. R. J. Muenzner; and Secretary-Treasurer, Dr. J. E. Guy.

J. E. Guy, M. D., *Secretary.*

KENOSHA COUNTY

The regular monthly meeting of the Kenosha County Medical Society was held at the Elks' Club, February 19. Twenty-nine were present. The topic discussed was the "Business Side of Medicine." Doctor W. F. Zierath of Sheboygan gave a very interesting talk on the subject and showed from income tax returns and other data that the average annual net income of the physician is very meager when compared with that of the business man, and showed that it is but little more than that of the day laborer, the steam-fitter, the tinsmith, the clerk and the college professor.

Doctor Rock Sleyster presented the subject of University Extension post-graduate medical instruction. The President was instructed to appoint a committee to secure the clinics for the Society.

H. M. Ripley, M. D., *Secretary.*

NEWS ITEMS AND PERSONALS

Dr. F. M. McGauley of Fond du Lac has resigned as city physician and health officer and will enjoy a long rest to regain his health. Dr. N. J. Malloy was elected to succeed him.

Dr. M. F. Rogers of the Columbia Hospital, Milwaukee, has received an appointment as consultant in general medicine at the government health service hospital, Resthaven, Waukesha.

Dr. C. J. Smiles of Ashland recently took a course in Urology with Doctor Bremerman of Chicago.

Dr. G. V. I. Brown of Milwaukee gave the fourth free public lecture at Madison, February 24, under the auspices of the Dane County Medical Society. Doctor Brown presented the various phases of mouth defects and deformities and their relationship to growth and development.

The Egeland Hospital, owned by Dr. C. R. Egeland of Sturgeon Bay, was totally destroyed by fire. Doctor Egeland has secured an option on the Joseph Richmond Building there and will convert same into a modern hospital.

As the first step towards establishing a state nursing service, the State Board of Health has engaged Miss Nellie Van Kooy, formerly with the Wisconsin Anti-Tuberculosis Association, as field supervisor for the bureau of child welfare and public health nursing. She assumed active duty March first and is at the service of county nurses, county boards of supervisors, and county health committees to advise on public health nursing.

Dr. Margaret Caldwell, dean of the medical profession of Waukesha county, commemorated her forty-fourth year of practice as a physician by giving a dinner to Waukesha physicians and their wives, February 23.

The new clinical building, being erected by Dr. J. M. Dodd of Ashland, will be ready for occupancy about April first.

Dr. H. A. Devine, who has been engaged in the practice of medicine at North Fond du Lac for some years, has become associated in the offices of Doctors F. S. Wiley and E. V. Smith of Fond du Lac.

Dr. G. H. Schlesselman has just recently returned from the service and resumed practice in Fond du Lac.

The Ovitz Hospital at Laona was destroyed by fire, February 26. The hospital was filled with patients but all were removed safely.

Dr. M. A. Flatley has returned to Antigo after a six weeks' absence in New York doing post-graduate work.

Dr. Katherine L. Storm, of Philadelphia, is announcing the removal of her offices from 1541 to 1701 Diamond Street. The new building which Dr. Storm has purchased, has treble the capacity of her present building, and is being equipped with every facility for quick and exact work. Dr. Storm is justly proud of the ever widening demand for the Storm Binder and Abdominal Supporter, and is planning to maintain her reputation for immediate response to each order.

Dr. and Mrs. A. T. Holbrook and Dr. and Mrs. Hoyt E. Dearholt of Milwaukee have gone to Florida where they will spend several weeks.

Doctors A. R. Bell, A. E. Winter and T. J. Sheehy of Tomah have formed a partnership under the name of the Tomah Clinic.

Dr. George D. Whiteside of Plover has been re-called by the Red Cross and has sailed for Plymouth, England. He will have charge of medical and surgical relief work in eastern Europe and will establish temporary headquarters at Warsaw, Poland.

Class instruction has been begun in the training school for nurses established in connection with the University infirmary and the Bradley Memorial Hospital at the University of Wisconsin. The course is three years of twelve months each divided into trimester periods, beginning in October, February, and June.

Dr. C. D. Beebe, son of Dr. C. M. Beebe of Sparta, has returned home after a year's service as house physician in King's County Hospital, Brooklyn, New York, and become associated with the firm of Sarles, Beebe & Beebe.

Doctor Clark of Weyerhauser has removed to Bruce and entered into partnership with Dr. H. C. Johnson.

Dr. R. B. H. Gradwohl, the anouncement of whose St. Louis Biological Laboratories has appeared in the columns of this Journal, has opened a Chicago Laboratory, and has taken a suite of rooms in the Chicago Savings Bank Building, corner Madison and State Streets, Chicago, Ill. This Laboratory is supplied with the very latest and best equipment for rendering physicians efficient service. Dr. Gradwohl's announcement with complete information as to his Chicago office, appears on another page of this issue.

A group of Wausau business men have practically concluded arrangements to build a modern hospital of one hundred or more beds in the central part of the city. An informal meeting has been held and the conclusion was reached that a large hospital was one of the necessities of the city as the present hospital accommodations are inadequate. The proposed hospital will include all up-to-date features. It will be sound-proof, fire-proof, include a training school for nurses and maternity quarters and will be non-sectarian and open to all. All requirements of the state laws will be incorporated in the enterprise.

The appointment of two young women to positions as social service workers in connection with venereal disease clinics was made by the state board of health. Miss Mary McCarville, Darlington, has been assigned to the clinic at La Crosse. Miss Evelyn Norman, Hurley, has been appointed to the clinic staff at Superior. Both are trained nurses. There are now eight young women in these positions at clinics in as many Wisconsin cities.

Dr. Frank I. Drake, superintendent of the state hospital at Mendota, has arranged with Dr. W. F. Lorenz, director of the psychiatric institute, to conduct a monthly clinic to which all discharged patients living in Madison are expected to report. It will take place on the third Friday of each month from 10:30 to 12:30 p. m. at the University Clinic. The clinic is open also to all persons suffering with mental or nervous conditions which require attention of a specialist.

Miss Bertha Schultz, Chicago, has been appointed county school nurse by the Outagamie county chapter of Red Cross and has started her work. Her salary and expenses will be paid by the Red Cross out of funds raised in a recent membership campaign.

The committee of fifteen, which has charge of the Racine County war funds, is ready to assist the people living in the western end of the county in establishing a memorial hospital at Burlington. A report was read at a meeting of the county board of supervisors in which the committee agreed to release $8,000 from the war chest funds at once to boost the project and tentative plans were made for turning over some $15,000 towards the hospital.

DEATHS.

Dr. George L. Alexander of Milwaukee, died at his home at the age of 55 years, February 13. He graduated from the Hahnemann Medical College in 1888 and practiced medicine in Milwaukee for twenty-seven years, being on the staff of the Hanover Hospital. He was a former member of the Milwaukee County, Wisconsin State, and American Medical Associations.

Dr. Robert J. Gordon, one of the four or five Indian physicians of Wisconsin, died at the home of his parents in Gordon, Wisconsin, January 11. Doctor Gordon was graduated from the Nelson Dewey high school at Superior in 1910, following which he entered George Washington University and received his degree in 1914. Until last year, he was located in New York and was in the United States Indian service at the time of his death.

Dr. E. H. Watrous, who for a number of years practiced medicine at Plymouth, died at the age of 70 in Milwaukee, January 30.

Dr. Oscar Loehr, aged 56, died February ninth, at the Alexian Hospital, Chicago, after an illness of several weeks. Doctor Loehr came to Milwaukee 25 years ago and immediately took up his practice there. He graduated from the University of Berlin in 1880.

Dr. J. Rodney Rundlett, a retired physician, who has lived at Delavan for several years, died at his home, February 8. He was born in 1845 and graduated from the Rush Medical College in 1868.

A certain young woman, bucolic,
Took rue for a purpose ecbolic.
She took tansy tea
And ergot; but she
Got nothing but uterine colic.

—*J. G. Parsons, M. D.*

CORRESPONDENCE

February 14, 1920.

Wisconsin Medical Journal,
Milwaukee, Wisconsin.

Dear Sir:

The *New York Medical Bulletin* recently devoted three pages to a discussion of the enclosed leaflet, and the Chicago Tuberculosis Institute distributed it to every physician in Cook County. The leaflet gives the consensus of opinion of tuberculosis workers in Denver in regard to sending the indigent tuberculous West—that mistaken succor which defeats its humane purpose. In behalf of the tuberculous poor, who are sent here by hundreds from all over the country, we are requesting medical papers in every state to publish the enclosed abstract of the leaflet.

Very truly yours,

THE DENVER ANTI-TUBERCULOSIS SOCIETY,
GARNET ISABEL PELTON,
Executive Secretary.

WHY TUBERCULOUS PERSONS WITHOUT FUNDS SHOULD NOT LEAVE THEIR HOME STATES.

It is reliably estimated that several hundred tuberculous persons without funds come to Denver every year. Practically all of them come because they have the mistaken idea that climate will cure tuberculosis.

They arrive, almost penniless, without having made any inquiries, or any provisions for their needs. Since Colorado has no state, and Denver no municipal tuberculosis sanatorium (merely a ward at the County Hospital for thirty-five very sick tuberculous residents), the care of such indigent persons is limited to a few free private sanatoria, which are continuously so overtaxed that admittance is a long and difficult matter. These sanatoria comprise: the two Jewish, which accept only a small number of Gentiles; a tent colony of men with a capacity for seventy "down-and-outers"; and a small home for a dozen destitute tuberculous women.

These tuberculous poor who migrate to Denver, finding no place where they can be cared for, look for light work in order to maintain themselves and often their dependent families; but the demand for such work is far in excess of the supply. Driven to any work they can get, with neither friends nor care, anxious, homesick, hopeless, they rapidly grow worse, and usually soon die. They die for lack of proper rest, food, fresh air, and medical attention, those essentials of treatment, which many of them could have had at home—or here with sufficient funds for two years' care. Without these essentials climate is of no avail. If it were, Denver would welcome these tragic health-seekers instead of urging them, for their own best chances, to stay at home.

Denver also urges that the states throughout the country plan definite programs to retain their indigent tuberculous, giving them effective treatment in state sanatoria or in their own homes.

THE DENVER ANTI-TUBERCULOSIS SOCIETY,
221 Coronado Building, Denver, Colorado.

February 13, 1920.

Editor, Wisconsin Medical Journal,
Goldsmith Building,
Milwaukee, Wis.

Dear Sir:—

I am sending you herewith a circular of information of the American Board for Ophthalmic Examinations. You may be interested in knowing something of this movement which is explained in the pamphlet.

The next examination of the Board will be held at New Orleans, Monday, April 26, at the time of the meeting of the American Medical Association. Candidates who wish to take the examination for the certificate of the Board must have their application and necessary credentials in the hands of the Secretary at least sixty days before the date of the examination.

I trust you will give some place in your valuable columns to an announcement of this work. I am

Very truly yours,

W. H. WILDER,
Secretary.

WHY APPLY FOR A CERTIFICATE.

What value will this certificate have?

The American Ophthalmological Society and the American Academy of Ophthalmology and Oto-Laryngology have voted that after 1920 they shall require every applicant for membership to possess the certificate of the Board, unless the applicant shall possess a degree in Ophthalmology conferred by a university recognized by them as competent to prepare students for such a degree.

The American College of Surgeons: The Regents of the American College of Surgeons have appointed an Ophthalmic Credentials Committee to pass upon the professional qualifications of Ophthalmologists who may desire to obtain Fellowship in the College and who are otherwise qualified. The personnel of this Committee is identical with that of the American Board for Ophthalmic Examinations. Those who pass the examination given by this Board, if otherwise qualified, may be not only certificated by the Board but also may be, upon the recommendation of the Credentials Committee, admitted to Fellowship in the College without further examination.

Other important societies will doubtless follow the example of these influential organizations. Moreover, there is reason to believe that the certificate of the Board is likely to be required of candidates for appointments in many and various important positions; hospital trustees and other laymen may be glad to avail themselves of this means of judging the fitness of candidates for positions under their control. Lastly, it is expected that the medical public and the lay public will learn to discriminate better between those who

are well fitted and those who are not, and will be influenced by the certificate of the Board in arriving at their conclusions.

What will be the attitude of the older men with reputations already established as well fitted and competent to practice Ophthalmology? While such men may not require the prestige indicated by such a certificate, it is hoped that many of them will apply for the certificate as a means of showing their approval of the movement to elevate the standards of Ophthalmic training, and to draw the line more definitely between the fit and the unfit. They will not be obliged to undergo needless and irksome examinations.

FEES.

The fee for the examination is $25.00 but its payment will not be required before the Board is ready to issue the certificate.

Applications must be made on special blanks that may be procured from the Secretary, and must be sent to the Secretary, together with any other required credentials, at least three months before the date the candidate expects to take the examination.

If the candidate fails in an examination he will be admitted to a second examination within three years, but must give sixty days' notice of his intention to appear for re-examination. A candidate may file his application and postpone his examination until the Board holds an examination within a convenient distance of his home.

Examinations will be held annually at or near the time and place of meeting of the American Medical Association, and at other times and places at the discretion of the Board, depending on the number of applications from any region.

THE FIRST CHINESE MEDICAL COLLEGE.

During the war between Japan and Russia in 1904 the Chinese Red Cross was formed to look after thousands of Chinese who were left homeless and destitute in the regions where fighting raged for many months. After the situation was relieved, a considerable sum of money remained over, and upon decision of members of the General Council, ground was purchased near Shanghai and a large handsome building erected as the Chinese Central Red Cross Hospital and Medical College for Chinese students. The hospital is completely equipped with the most modern apparatus and furnishings. Instruction in the college is in English only.

The first year there were twenty registrants. Each received his degree as a competent practitioner. Graduates of this school under the direction of Dr. S. M. Cox, and by use of methods discovered by his brother, Dr. Robert Cox, have done much to alleviate suffering from former severe epidemics. The Chinese are proud of their medical school and view the results of its work with much satisfaction.

The Chinese Red Cross is today an organization with 25,000 members, whose interest in world relief work is evidenced by the entrance of the society into the League of Red Cross Societies. The Chinese have been much impressed with the work of the American Red Cross both during and after the war, and China now desires to take her place beside the other nations of the world in the work of relieving human suffering.

ANNUAL CONFERENCE ON PUBLIC HEALTH AND LEGISLATION.

Called by the Council on Health and Public Instruction of the American Medical Association.

Thursday, March 4, 1920.

In the South Parlor, Auditorium Hotel, Michigan Boulevard and Congress Street, Chicago.

PROGRAM.

MORNING PROGRAM.

1. Call to Order, 9:30 a. m.
2. Chairman's Address, Dr. Victor C. Vaughan, Chairman, Council on Health and Public Instruction, American Medical Association.
3. Secretary's Report, Dr. Frederick R. Green, Secretary Council on Health and Public Instruction, American Medical Association.
4. "Standardization of Public Health Activities," Dr. George E. Vincent, President, Rockefeller Foundation.
5. "Standardization of State Public Health Organizations," Dr. Chas. V. Chapin, Commissioner of Health, Providence, R. I.
6. "Standardization of Municipal Health Organization," Dr. Allen McLaughlin, Assistant Surgeon-General, United States Public Health Service.
7. General Discussion, opened by Dr. C. St. Clair Drake, Commissioner of Health, Springfield, Ill., and Dr. Ennion Williams, Commissioner of Health, Richmond, Va.

AFTERNOON PROGRAM, 2 P. M.

Symposium on Health Education of the Public.

1. "Health Education in the Public Schools—Thirty Years' Experience in Michigan," Dr. Victor C. Vaughan, Ann Arbor, Mich.
2. "Health Education and Activities in Colleges and Universities," Dr. John Sundwall, Director, Students' Health Service, University of Minnesota, Minneapolis, Minn.
3. "Health Education a Function of Municipal Health Departments," Dr. Haven Emerson, New York.
4. "Health Education a Function of State Health Departments," Dr. W. S. Rankin, Secretary, State Board of Health, Raleigh, N. C.
5. "Health Education a Function of the Federal Government," Dr. Chas. V. Bolduan, Director, Division of Public Health Education, U. S. Public Health Service.
6. General Discussion, opened by Dr. John M. Dodson, Chicago; Prof. W. B. Owen, Superintendent, Chicago Normal College.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

MODERN SURGERY: General and Operative. By J. Chalmers Da Costa, M. D., L. L. D., F. A. C. S. Eighth Edition, revised, enlarged, and reset. Octavo of 1698 pages, with 1177 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth $8.00, net.

PRACTITIONERS' MANUAL OF VENEREAL DISEASES. By A. C. Magian, M. D., Paris, France. 215 pages. Illustrated. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $3.00.

SYSTEMATIC DEVELOPMENT OF X-RAY PLATES AND FILMS. By Lehman Wendell, B. S., D. D. S. 78 pages. Illustrated. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $2.00.

AFTER-TREATMENT OF SURGICAL PATIENTS. By Willard Bartlett, A. M., M. D., F. A. C. S., and collaborators. Two volumes—1066 pages. 435 illustrations. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $10.00.

SYPHILIS. A Treatise on Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment. By Henry H. Hazen, A. B., M. D. 647 pages. 160 illustrations—16 in colors. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $6.00.

MUSTARD GAS POISONING. By Aldred S. Warthin, Ph. D., M. D. 267 pages. 156 illustrations. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $7.00.

ANAPHYLAXIS AND ANTIANAPHYLAXIS and Their Experimental Foundations. By Dr. A. Besredka, Professor at the Pasteur Institute. 143 pages. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $2.25.

FOOD FOR THE SICK AND THE WELL, How to Select It and How to Cook It. By Margaret P. Thompson, R. N. 82 pages. Yonkers-on-Hudson, New York: World Book Company. 1919. Cloth $1.00.

PSYCHOLOGY OF THE NORMAL AND SUBNORMAL. By Henry H. Goddard, A. M., Ph. D., Director Ohio Bureau of Juvenile Research. 349 pages. Illustrated. New York: Dodd, Meade & Company. 1919. Cloth $5.00.

THE HIGH ROAD TO HEALTH. By Dr. James E. Kelly. 254 pages. Illustrated. New York: Dodd, Meade & Company. 1919. Cloth $1.75.

BOOK REVIEWS

THE HIGH-ROAD TO HEALTH. By James E. Kelly, M. D. 254 pages. Illustrated. Dodd, Meade & Company, New York. 1919. Cloth, $1.75.

This work on the subject of keeping well is written especially to be put in the hands of the lay reader. Doctor Kelly devotes a chapter each to what he considers six essentials to good health. These are in order: Perseverance, Air, Water, Exercise, Diet, and Sleep. Other chapters of the work are devoted to: Appearance, Treatment, Habit, Social and Personal Poisons, Constipation, Obesity, Self Massage, and Training. The chapter on Exercise gives full directions for indoor training with excellent illustrations to make the text plain. It is a sane work on the subject and safe to recommend.

PSYCHOLOGY OF THE NORMAL AND SUB-NORMAL. By Henry H. Goddard, A. M., Ph. D., Director of the Ohio Bureau of Juvenile Research; Former Director of the Vineland Laboratory; Author of "Kallikak Family". "Feeble-Mindedness—Its Causes and Consequences", "The Criminal Imbecile", "School Training of Defective Children." 349 pages. Illustrated. Dodd, Meade & Co., New York. Cloth, $5.00.

A work by Doctor Goddard, the unquestioned authority of the United States on feeble-mindedness, is always a welcome addition to scientific literature. The work reviewed deals with psychology and the author has succeeded in his endeavor "to develop a picture of the mental processes more graphic than usually drawn." The book is written from a practical standpoint and in terms which can be appreciated by those who demand the concrete. It has two distinguishing characteristics—first, the recognition of the unity of mind, and second, the view of the emotions—so far neglected in text books on psychology. The book will prove useful to those beginning the study of psychology, to teachers, to parents desiring to understand their children, to the general reader in search of information on the subject, and to those who wish to increase their own efficiency to understand something of the workings of their own minds as well as those of their associates.

An appendix contains Professor Angelo Mosso's work on "The Mechanism of the Emotions." The book is beautifully bound and printed on a splendid grade of paper. It is a classic on the subject and deserving of a place in the library of everyone interested in psychology.

MODERN SURGERY: GENERAL AND OPERATIVE. By J. Chalmers DaCosta, M. D., Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Eighth Edition, Revised, Enlarged and Reset. Octavo of 1,697 pages, with 1,177 illustrations, some of them in colors. W. B. Saunders Company, 1919, Philadelphia and London. Cloth, $8.00 net.

The eighth edition of John Chalmers DaCosta's "Modern Surgery" has nearly two hundred pages more than the seventh edition published in 1914 and approaches the limit in size, for a single volume; because of its extreme usefulness as a ready and authoritative work of reference, it is hoped that it may be kept within the bounds of a single volume.

The preface speaks of the difficulties under which the new work was carried on, owing to the war activities; but the encyclopaedic character of the volume has not been changed. It is a veritable mine of information, with opinions and justification for the same, frankly expressed, on most of the important branches of the subject that are out in the course of development.

For example: In speaking of "Vaccine Therapy or Treatment of Infections by Bacterial Vaccine", the au-

thor says, "My own experience with the therapeutic use of vaccines has been rich in disappointments. The greatest claims made for them have been in the treatment of staphylococcic lesions of the skin, but most dermatologists have lost all the confidence of ten years ago. In the sepsis encountered in the war the treatment has proved futile."

Relative to Alvarez's objection to preoperative purgation DaCosta says, "This is a heavy and a comprehensive indictment which it seems to me might lodge against a drastic purgative, but scarcely against a mild laxative."

Presenile Spontaneous Gangrene (thrombo-angitis obliterous) is very ably discussed. Ringer's solution by hypodermoclysis is included with other methods that have failed totally, or proved only palliative.

High amputation in gangrene is advocated and the Moschcowitz, (test for collateral adequacy) is not accepted as conclusive.

Use of the term "Scrofula" is interestingly defended as follows: "Many surgeons positively oppose the use of the term scrofula, but I believe that there is clinical value in retaining it. The surgeons that have entirely abandoned it think that, after all, it is exactly synonymous with tuberculosis. I use it to designate the persons that are predisposed to tuberculosis through possessing a type of tissue of low resisting power. These tissues fall a ready prey to the bacteria of tuberculosis."

In the glands of the neck the author expresses his belief that about 75% of cases are permanently cured by thorough operation.

A very judicious summary of the more recent contributions dealing with shock is included.

An example of the forcefulness of the author's style is seen in the following statement relative to the "Prevention of Syphilis": "Various plans have been proposed for the diminution or extinction of syphilis in communities. As yet no method has been decided upon. Serious bars to intelligent action are the criminal prudery of many and the unnatural stupidity of many others. The facts about syphilis should be known, not hidden."

The section devoted to "Tumors or Morbid Growths" is admirable.

In the paragraphs considering the treatment of inoperable Cancer, after the enumeration of various treatments that have been recommended, one finds the statement that, "They were like plausible confidence men, but each was soon exposed. There is no drug and no serum, no globulin, no vaccine, no toxin at present known to be capable of curing cancer. Honest investigators have at times been lead into error by forgetting that at times the rate of growth of a cancer may temporarily lessen or that growth may for a time actually cease."

Urotropin, Hexamithylenamin, is recommended preliminary to brain or skull operations.

In speaking of traumatic Hysteria we are told, "In most hysterical conditions the general health is not profoundly impaired. In making a diagnosis of hysteria we must be most careful to exclude both malignant disease and imposture, because hysteria is a sort of diagnostic waste-basket into which we cast most things which we fail to understand. Babinski proposes that we should call phenomena hysterical only when they can be produced or can be cured by suggestion. Brain tumor may cause hysterical symptoms."

The term War Shock is suggested instead of Shell Shock and the brief, pithy discussion of the subject is most satisfactory.

One naturally turns with interest to the subject Empyema. The physical signs include, "Absent breath sounds over the purulent matter," the occasional exception to this rule might well have been emphasized.

Speaking of treatment the author says, "I do not believe in any of the appliances to drain with a small tube and maintain negative pressure in the chest to favor lung expansion. In any method of suction so far advised the tube is so small that it blocks up, and though the drainage tube may at first make an air-tight joint with the chest, it always loosens sooner or later and leaks air. An acute empyema is to be drained by intercostal incision or by resection of a rib. Of late I have tried washing out empyemata with Dakin's fluid. The irrigation is practiced every two hours. It lessens putridity but does not seem to me to shorten the duration of the case notably. The same may be said of Dakin's oil.

The report of the Empyema Commission on the treatment of Empyema in Army Camps is briefly abstracted.

The Table of Contents shows a surprisingly complete survey of the entire subject of Surgery: including Bandaging, Bacteriology, Pathology, Orthopedic Surgery, Genito Urinary Surgery, Amputation, Skin and Nails and even a consideration of the surgery of the Carotid gland with all the usual divisions.

The index is most workable and satisfactory and the entire volume may be most highly recommended, as the large number of Editions plainly indicates.—*F. G. C.*

SYPHILIS. A Treatise on Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment. By Henry H. Hazen, M. D., Professor of Dermatology and Syphilology, Medical Department of Georgetown University. Published by C. V. Mosby Company, St. Louis, 1919.

In the publication of his treatise on Syphilis, Hazen has presented to the medical profession a concise, practical and complete review of this subject in all its phases. The text, numbering 634 pages, is illustrated with 144 excellent clinical and microphotographs, and 16 colored plates, and its value to the student of syphilis is enhanced considerably by direct references to an ample bibliography. The author, who has had a wide experience especially in cutaneous syphilis, has drawn liberally from the experience of others to amplify the text, bring it up to date and render it authoritative. Certain chapters are written or contributed to by men qualified to deal with those subjects, the chapters and the collaborators being the following:

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Radiography—Captain Walter Van Sweringen.

Bones, Joints, Muscles, Tendons and Bursae—Dr. John Dunlop.

Endocrine Glands—Dr. Edw. H. Reede.

In a disease of such protean character as syphilis, which vitally interests the internist, surgeon and specialist, a collaboration approached by such methods seems productive of the best results.

The text is printed on good paper in easily readable type and the book is one which most physicians should find a desirable addition to their libraries.—*H. R. F.*

THE PRACTITIONER'S MANUAL OF VENEREAL DISEASES. A. C. Magian, M. D., Ancien eleve de l'Hospital, St. Louis, Paris; 8, St. Peter's Square, Manchester. C. V. Mosby Co., 1919. Cloth, $3.00.

This compend of some 200 pages with about 60 well chosen illustrations certainly offers all that its name implies. In its preface the author states clearly that "It is intended for the use of the general practitioner only, and makes no pretence whatever of going into details."

It covers in compend form gonorrhea in both male and female as well as chancroid and syphilis. Continental-European ideas prevail throughout the book and are especially noticeable in that section dealing with gonorrhea. The section covering syphilis is especially pregnant with ideas leading toward the reeducation of muscles left incoordinated following a spinal lesion.—*J. C. S.*

FOOD FOR THE SICK AND THE WELL, HOW TO SELECT IT AND HOW TO COOK IT. By Margaret P. Thompson, Registered Nurse. World Book Company, Yonkers-on-Hudson, New York. Cloth, ix+82 pages. Price $1.00.

This is a practical volume. It was finished on the anvil of experience—whence comes most of our valuable knowledge—and it has been tested and proved. It gives definite aid in meeting a difficulty which to many persons is a real one.

This is a book of receipts, the result of many years of experience in arranging, changing and adapting them so as to form a well regulated diet for the sick and for convalescents, as well as for those who are well and wish to remain so.

An additional section of the book devotes itself to treatments such as baths, sponges, hot-packs, salt-rubs, poultices, mustard plasters, enemas, douches, and directions for the proper way of filling a hot-water bag.

An index of several pages will enable people to find what they are looking for in a hurry.

ANAPHYLAXIS AND ANTI-ANAPHYLAXIS AND THEIR EXPERIMENTAL FOUNDATIONS. By Dr. A. Besredka, Professor at the Pasteur Institute, with a preface by Dr. E. Roux, Member of the Institute; Director of the Pasteur Institute. English Edition by S. Roodhouse Gloyne, M. D., (Leeds), D. P. H., (London), Pathologist, City of London Hospital for Diseases of the Chest, Victoria Park. C. V. Mosby Company, 1919. St. Louis.

It would be of distinct advantage if every physician could read and digest the contents of this small volume. It is not easy reading. The subject is not a simple one and the final chapter has yet to be written so that many ideas may have to be changed as experimental evidence accumulates and fixes an advancing step. However, there is so much loose conversation in regard to anaphylaxis that one wishes every doctor could get the fundamentals of the problems which Besredka so clearly enunciates in this small volume. The translator has done his work quite well.

There are only eight chapters, 130 pages, but it is necessary to read every word. The subject has been condensed into this space and, so far as the Reviewer can see, the condensation has not squeezed any essential juice out of the subject.—*L. M. W.*

THE MEDICAL CLINICS OF NORTH AMERICA. New York number. September, 1919. W. B. Saunders Company, Philadelphia and London. Bimonthly. Price per year, $10.00.

This number contains some exceedingly interesting articles. W. T. Longcope has a clinic on "Cerebral and Spinal Manifestations of Purpura Haemorrhagiea" which is unusual. H. O. Mosenthal discusses "The Symptoms and Treatment of Retention of Waste Products in Nephritis." This merits attentive study. A. F. Chace discusses "The Value of Chemical Blood Examinations in Diagnosis, Prognosis and Treatment of Some Constitutional Conditions." This is well presented and of particular interest.

Other clinical discussions are by Leo Buerger, "Cystitis: Discussion Regarding Its Therapy"; G. S. Mills, "Radium Therapy"; M. A. Rothschild and A. O. Wilensky, "Cholelithiasis"; M. H. Keahn, "The Functional Diagnosis of the Heart"; A. R. Lamb, "The Flint Murmur"; A. S. Blumgarten, "Vagotonia and Sympathicotonia As Aids in the Diagnosis and Treatment of Endocrine Conditions"; H. F. Wolf, "Physical Therapy in Locomotor Ataxia"; I. W. Held, "A Discussion on the Splenomegalies"; and a contribution by W. W. Herrick and A. M. Dannenburg on "Recurring Meningococcic Meningitis." Altogether this is a very valuable number. Many statements represent viewpoints of the writers and are not necessarily the last words on the subjects. With some of the statements the Reviewer does not agree, but that has its advantage in stimulating work. One satisfactory feature of these volumes is that the contents are rarely ever dull. The impression is of living, moving things, not of cold facts entombed in pages of a book. L. M. W.

Sixty-two American Red Cross nurses are now on duty in Siberia and Albania to battle against a recurrence of the typhus epidemic which swept across the Balkans last year.

The Wisconsin Medical Journal

Volume XVIII | Milwaukee, April, 1920 | Number 11

ORIGINAL ARTICLES

THE NEED OF A COMPLETE MEDICAL COURSE AT THE STATE UNIVERSITY.

C. R. BARDEEN, M. D.,

MADISON.

Wisconsin is far behind the neighboring states in state support for medical education. In Michigan, Illinois, Iowa, Minnesota, Nebraska, Indiana, and Ohio the state universities have complete medical departments, an essential function of which has been the giving of the best of medical care to those who could not otherwise get such care. Where this care is offered, a few weeks of treatment furnished by the state may make a productive citizen out of one who might otherwise be a lifelong inmate of a charitable institution. No expenditure of public funds is likely to give a greater return than that spent for scientific study and treatment of disease. In the states mentioned the clinical departments of the state universities have achieved statewide popularity both with the public at large and with the medical profession. At the last session of the state legislatures in Iowa and in Michigan appropriation bills calling for large sums for the extension of hospital facilities at the state universities were passed without dissenting votes. In Michigan, which already has a 450-bed university hospital, in addition to a psychopathic hospital the legislature made provision for the erection of a new 850-bed hospital with a large amount of laboratory space for teaching and research. This new hospital will probably cost in the neighborhood of $3,000,000 when completed. In Iowa a new 400-bed university hospital was erected in 1911 and was soon overcrowded. In 1917 a commodious isolation hospital for contagious diseases was occupied. In 1918 a special 140-bed hospital for the care of infants and children was completed. At the last session of the legislature provision was made for a psychopathic hospital for which liberal support for scientific research was included in the Act.

Michigan and Iowa have similar laws regarding the admission of patients to the university hospitals. Any patient likely to be benefited by hospital treatment at the university hospital who cannot or whose friends or relatives cannot afford to pay for such treatment may be sent to the university hospital at state or county expense. Such patients are sent to the hospital by a judge of the district in which the patient resides, after a medical examination and recommendation by a physician appointed by the judge. A fee of $5 is provided for this medical examination. Provision is also made for transportation of the patient and attendants at public expense when this is necessary. In both states the university hospitals have hearty support from the medical profession.

These large hospitals at Michigan and Iowa, like similar hospitals in the other neighboring states, offer unusual opportunities for giving clinical instruction to students and for medical research, and excellent advantage has been taken of these opportunities.

At the University of Wisconsin, in contrast to the universities of the neighboring states, but little has been done for clinical medicine. By Act of legislature in 1848 a department of medicine was authorized at the state university. A medical faculty was appointed for the year 1855-6 but appears not to have been active. The limited resources of the university led to a concentration at first along literary lines. Later laboratory scientific studies were introduced and from these, after the passage of the Morrill Land Grant Act by Congress in 1862, the Colleges of Agriculture and Engineering have developed. The laboratory sciences likewise offered good pre-medical college training. Chapter 114 of the laws of 1866 contemplated the establishment of a medical school at the state university. By Chapter 306 of the laws of 1875 the regents of

the university succeeded to the custody of the Soldiers' Orphans' Home in Madison and were authorized to establish a medical college when in their judgment such a college would be required by the medical profession. Nothing came of this. The property was utilized for other purposes. Over half a century passed after the opening of the university before facilities were offered for laboratory teaching in the specialized branches of laboratory sciences, which constitute the bulk of the work of the first two years of the medical course. In 1907 the legislature authorized the establishment of a medical school at the university. This enabled time credit to be granted for two years of the medical course. Since that date the growth of the medical school has been vigorous, the faculty has been productive and the reputation of the school for the work attempted has been high. But as yet no buildings have been specifically designed and erected for teaching and research in the medical sciences, with the exception of a small research hospital provided by private funds. In this respect Wisconsin stands in marked contrast to the other vigorous state universities. During the past ten years Minnesota, Nebraska, Iowa and Indiana have devoted large sums to medical buildings and Illinois and Michigan have appropriations and plans for immediate extension.

At any active university and especially at any active state university the demands far exceed the resources. It therefore becomes necessary to choose out of many promising lines of development those which appear to offer in the long run the greatest return to the state for the expenditures incurred. Until recent years the choice at Wisconsin has gone against medicine. This has been due largely, we believe, to the fact that the direct state service aspects of a university clinical center have received insufficient attention, while undue weight has been given to the cost of establishing clinical teaching at the university and to the opportunities offered Wisconsin boys to study medicine elsewhere.

At the present time we are confronted with the following conditions:

1. During recent years the raising of the requirements of medical education and the cost of medical education has greatly reduced the number of medical schools in this country. There are now only about half as many schools as there were twelve years ago (approximately 80 as compared with 160). According to the classification of the American Medical Association there are now only 68 Class A medical schools and only 57 Class A schools giving a four-year course.

2. The quality of the existing schools is in general much higher than it was but it costs so much to educate a medical student at the present time and the requisites are so expensive that most of the better endowed schools limit the number of students received in a class to a small part of the number received a few years ago. This still further restricts the number of opportunities for medical study. In 16 schools which have definitely limited the number of students received the average number of students admitted to a class is 71. According to the estimates of N. P. Colwell, Secretary of the Council on Medical Education, American Medical Association, the 57 Class A schools giving a four-year medical course can accommodate efficiently at full capacity at the present time, 14,689 students, or 3,672 students per year. If we estimate the population of the country at 110,000,000 and the number of physicians at 150,000 (a very high estimate for active practitioners), we have an average of one physician for each 730 persons (in Wisconsin the ratio in 1918 was one physician to 878 persons). This is a low ratio compared with what we had a few years ago, but is high compared with the ratio in Europe, where the population is more condensed and the traveling from patient to patient less extensive. To many it appears that we are already beginning to have a shortage of physicians. To those who look ahead it is obvious that we shall have a shortage in the not distant future if more educational facilities are not provided. If we estimate the average length of active practice of a physician as 30 years we should need with a stationary population 5,000 physicians per year to keep up the present ratio of physicians. We have at present capacity in this country for turning out only about 3,500 well-trained physicians per year. Furthermore, the population of the country is not stationary but is increasing rapidly, so that on the estimate of an average of 30 years of active practice we shall need not 5,000 physicians per year but a number increasing at a ratio corresponding to the ratio of increase of the general population. Increased efficiency in medical service resulting from development of medical centers and greater use of hospitals on the one hand and development of public health work and preventive medicine on the other may serve to reduce the ratio of physi-

cians to population needed for the kind of medical service the public now gets. But if medical science is to be applied with full efficiency to human needs we shall need a greater rather than a less ratio of medical graduates.

3. Wisconsin has a moral obligation to do her fair share toward the support of medical education. The individual boy who gets the first two years of medical work at Wisconsin and then goes elsewhere to complete his course is as well off so long as the better schools are open to him as if he were educated at home. To be sure, he has to pay a tuition which he would not have to pay if he took work for one of the other liberal professions for which facilities are now furnished at the state university, but for each dollar of tuition he would pay someone else would pay at least three or four to provide him with facilities for study. In asking the better schools throughout the country to give clinical training to our boys the state is therefore in a way asking for charity. This has its disadvantages. Since charity begins at home, these schools as a rule are going to give first chance to those who have taken the pre-medical and first two years of the medical work at the university with which the medical school is connected. It will force our boys to take the whole six to eight years of pre-medical and medical work in endowed or in outside state institutions, if they want the best, and the expense and outside competition will limit the number for which this is possible. Furthermore, a considerable share of those who complete their clinical work outside the state never return to Wisconsin. Those connected with the schools from which these boys graduate do their best to encourage the brightest boys to settle in the communities in which the schools are situated. Wisconsin can even things up only by giving first class clinical work within the state and encouraging the brightest of those who come here from outside for their medical education to settle in the state. Quite aside from the need of education of physicians at the University of Wisconsin there is even greater need for the direct social service which is offered by the hospitals utilized for clinical teaching.

4. Hospitals on the university grounds from the standpoint of state service should be designed to provide for the following classes of patients:

a. Patients of limited means living in communities which have inadequate local hospital facilities for the usual hospital care.

b. Patients of limited means living in communities which have good hospital facilities for ordinary cases but are lacking in special facilities needed by the patients in question.

c. Patients who need highly specialized study and treatment which from its nature could not well be provided in more than one or two places in the state. Thus, for instance, to care for crippled children properly we need not only trained medical specialists but also a force of trained mechanics to make braces, casts, and the like.

The state hospitals should not so much compete with local hospitals in doing charitable work as supplement them by doing work which overhead cost makes prohibitive for the average hospital.

The clinical part of the medical course consists of two years of nine months each of academic instruction plus, in most instances, a resident hospital internship of at least twelve months. Some schools require the completion of the internship before granting the medical degree. Some states require its completion before granting a license to practice. Most students take it even if graduating from a school which does not require it and preparing for practice in a state which does not require it. In planning for the clinical part of the medical course at Wisconsin we believe that the intern year should be looked upon as an integral part of the medical course and should be required for graduation.

Minnesota divides the students during the clinical part of the medical course into two groups. One group works during the summer vacations preceding and following the first year of the clinical part of the medical course and is thus enabled to complete the required eighteen months of the academic work and the year of hospital internship in thirty months after the end of the first two years (laboratory science part) of the medical course. The other group takes the usual academic vacations and finishes in thirty-six months. One value of having the two groups lies in the opportunity offered to make continuous use of hospital facilities and to furnish continuous student service in the hospitals. The Minnesota plan or a similar one should be adopted at Wisconsin. On this plan clinical instruction is divided into three periods of six months each of formal instruction, followed by the twelve-months' internship.

The first period is devoted to drilling the students in the broader principles of medical diag-

nosis and treatment. The second period is a period of junior clerkship during which the student resides in a hospital, has cases assigned to him for study and learns by experience how medical care should be administered. The third period is that of senior clerkship, during which the student continues to reside in the hospital and is entrusted with greater responsibilities. During the intern year still greater responsibilities are added and the formal instruction given is less.

To organize a course of this kind at Wisconsin we should have a hospital of at least 300 beds on the university campus to which patients of limited means would be sent from all over the state. During the first period the students would live outside the hospital but would spend most of the time in the hospital and associated dispensary while taught in small groups the chief principles of diagnosis and treatment and hospital care.

During the second period the students preferably should reside as junior clerks in the university hospitals and in other hospitals located at or close to Madison. The work could consist largely of study of individual patients by individual students, but there would be frequent meetings of group sections in which various aspects of the work would be discussed and occasional meetings of the whole class for lectures and demonstrations and discussion of general principles.

During the third period the students would reside in hospitals as senior clerks. If suitable arrangements could be made these clerkships would be held in hospitals in various parts of the state in which the staff organizations were such as to offer good instruction to the students. Groups of students should be shifted from one hospital to another in order to broaden the experience of the students and give them opportunity to study various types of disease. Thus, each group should spend some time at the Mendota Hospital to become familiar with insanity as a disease and some time at Wales or a similar institution to become familiar with tuberculosis. Some diseases could be studied better in Milwaukee than elsewhere in the state. In the use of Milwaukee hospitals the University Medical School should work in harmonious co-operation with the Medical School of Marquette University and not as a competing institution. We believe it to be to the best interests of the state to have its needs in medical education met by two well-supported schools of high ideals working in harmonious co-operation, rather than have one overcrowded school monopolize the field.

The intern year could be spent in approved hospitals within or without the state. It should be so arranged as to offer definite instruction to the interns. Every effort should be made to promote the establishment of attractive internships in the hospitals within the state. We should have men for the chief departments in the university teaching hospital who devote all of their time to care of state patients, to teaching and research. We should have at least one full-time clinical instructor on the staff of each hospital not on the university campus in which student clerks receive their training. Ample provision should be made for clinical research.

A considerable part of the clinical teaching would, however, be done by practitioners who would receive but a nominal sum for their services as teachers.

CONCLUSIONS.

We believe that at the next session of the state legislature provision should be made for:

(a) The erection of a state general hospital on the university campus, as outlined above.

(b) The overhead maintenance of this hospital as a teaching institution.

(c) The creation of a clinical faculty.

We believe further that a bill should be introduced providing for joint county and state payment for the care of indigent patients and that this bill should be along the lines of the Michigan and Iowa statutes and the present Wisconsin statute relating to the care of incipient cases of tuberculosis. We believe that if bills along these lines are introduced they should have the hearty support of the medical profession of the state.

TYPHUS IN ESTHONIA.

Steps to combat the serious outbreak of typhus in Esthonia have recently been taken by the American Red Cross representatives in Europe. Early this year a dangerous shortage of doctors and nurses and an almost complete demoralization of hospital service was reported in face of a rapid spread of the epidemic. Lieut. Col. Ryan, American Red Cross Commissioner for the Baltic States has, in addition to relief measures taken on the ground, arranged with the French Service de Santé for a detail of twenty French doctors for two months to assist in fighting the disease. In the vicinity of Narva the Red Cross is already caring for 15,000 typhus, dysentery and influenza patients.

OBSERVATIONS ON EFFORT SYNDROME AMONG THE DRAFTED MEN AT A RECRUIT DEPOT.

BY LOUIS M. WARFIELD, A. B., M. D.,

MILWAUKEE.*

One of the interesting medical problems which the late World War brought to our attention was that having to do with the detection and disposition of a rather large group of apparently healthy young men who were unable to keep up in the pace set for the recruits. These men did not feel or appear ill. So far as they were aware, they were just as normal as any other men except for the fact that they were totally unable to take part in athletic sports. Finding that they could not engage in violent exercise they had accepted their limitations and had gravitated to occupations more or less sedentary where they were able to make a living. Some of these men were totally uneducated, others had had the benefits of at least a High School education. There was a surprising number of farmer boys from the states of Arkansas and Missouri. The symptoms presented by these men were quite uniform in character. These were on slight exertion breathlessness, precordial pain, dizziness, or actual fainting, palpitation of the heart and a feeling of utter exhaustion. Besides there were cold, clammy cyanosed hands and feet, a tendency to sweat profusely, often sleeplessness and dull headache. Such symptoms are well known to be present in many recently convalescing from illness and were particularly seen among men who were recovering from streptococcus pneumonia and from empyema.

To the group of subjective symptoms brought out upon slight exertion in apparently normal men, or better in men in whom no organic lesion could be demonstrated, Thomas Lewis gave the name "effort syndrome." His study was first upon men invalided from the British front. These men had been tagged D. A. H. (disordered action of the heart). The marked psychoneurotic element presented by many of these men so labeled directed attention to a particular organ and seriously interfered with recovery. Later Oppenheimer who was working with Lewis suggested the term neurocirculatory asthenia.

This is essentially the same syndrome so ably described by Da Costa after the Civil War and called by him "irritable heart." There had been hints of this same disorder in the British literature following the Crimean War. The disorder was little known, however, to this generation of medical men. The distinguishing characteristic of the syndrome is that it is brought out on very slight exertion. At rest the pulse may be normal. The blood pressure is not abnormal.

The syndrome was noticed at first among men invalided from the Allied front who had been gassed, had suffered from shell shock or had broken down under the terrible strain of the campaigns. Later it was found in increasing numbers among the men in training camps, both abroad and in this country until the problem became a serious one. To the examiners on the Local Boards a man who looked well, in whom no defect could be discovered, who seemingly became exhausted after hopping 100 times on one foot, and who maintained that exercise always exhausted him, was a slacker. He was looked upon with contempt and shipped to some camp. Only very gradually did it filter back from the camps to the Local Examiners that such men were not slackers. Had the war lasted another year or two, there is no doubt that most of these cases would have been recognized by the Local Examiners. Had the personnel of the fighting forces been confined to volunteers it is probable that the problem would not have been serious. No man who has found out that he cannot take violent exercise volunteers for hard service. So it was because of the Selective Service Law, and because of the lack of comprehension on the part of the general profession of this syndrome that so many men were sent to camps and accepted for service who had the unrecognized irritable heart.

I first came in contact with this syndrome as a member of the Advisory Board. Later as a Contract Surgeon on a Cardio-vascular Board and afterwards as Chief of Medical Service at a Base Hospital, I had opportunity to study a considerable number of men presenting the syndrome.

At the Recruit Depot, Jefferson Barracks, Mo., the problem was to sort out all the unfit and return them to their homes. To pass men on to camps who within a few months had to be discharged was not only expensive but wasteful of valuable time. Acting upon the suggestion contained in Lewis' report and specifically urged later

*Read before the Medical Section, State Medical Society of Wisconsin, October, 1919.

in Oppenheimer's paper, we adopted the only rational means to test the capacity of these men for service, that is put them through exercises and observe the effects upon them. In order that no harm might be done to the men suspected of having the effort syndrome, they were gradually led from very simple to more complex and violent exercises under command of a non-commissioned officer who drilled them under our supervision.

Through the hearty co-operation of the Surgeon, Lt. Col. C. E. Freeman, we were enabled to house the suspects in tents alongside the Base Hospital and to treat them as hospital cases. We were not concerned with the cure of these apparently normal men. We were only concerned with the question of their probable fitness for Military Service. Men were put through simple setting-up exercises for fifteen minutes daily or twice daily in groups. The response of every man was taken by the drill master or by us at the end of exercise. Within half an hour his pulse and temperature were taken by the nurse on the ward. All men had as a routine regular charts of pulse and temperature every three hours during the day. The exercise was so timed that it came just before one of the three hourly periods. As the men passed through the Examining Barracks all cases of tachycardia found by the heart examiner which did not subside within two minutes were referred to the special cardio-vascular Examiner. If he could not decide definitely whether the man was to be accepted or rejected, he was sent to the probation ward for study.

In order to arrive at some uniformity of history a simple history form was mimeographed and every case was asked the same questions. The most significant points brought to light were, (1) the influence of heredity, (2) the voluntary change of occupation to a light or sedentary one, (3) the importance of an actual history of precordial pain on slight exertion with dizziness or fainting spells accompanying the pain. This last point we considered of pathognomonic value. In no case was the final diagnosis of effort syndrome or irritable heart made unless there had been a history of precordial pain on slight exertion dating back one or several years. The value of this was further impressed upon us during the demobilization of a group of Limited Service men. The writer had the opportunity to re-examine about twenty men upon whom the diagnosis of irritable heart had been made at the time of mobilization by the cardio-vascular examiner who was associated with him in the work. These cases had come to the Depot during the height of the influenza epidemic where, for obvious reasons, the exercise class work had to be abandoned. Upon re-examination twelve proved to have normal cardio-vascular response. The interesting point was that in no case was there elicited a history of precordial pain. The men were all office clerks who never took any exercise. Upon entering the army they were nervous, unstrung, and some failed to hop the required 100 times. These men were accepted for limited service only. No doubt some of them, if gradually exercised, could have undergone the work of General Military Service.

Tachycardia was not always present when the man was at rest. However, on the slightest exertion it was evident and persistent. Practically all had cold, moist, cyanosed hands and feet. The vasomotor skin response was slow, the deep reflexes were exaggerated, the pupils dilated, especially after exertion. The blood pressure was normal. That there is a large psychoneurotic element in the general make-up of these cases seems indubitable, but that it is always present is not in accord with our observations. All presented at least the cardinal symptoms on slight or moderate exertion, of breathlessness, dizziness, palpitation and precordial distress amounting in most cases to actual painful sensations with the feeling of great exhaustion. A number of our cases were so overcome by exercise that they fainted, sweat profusely and spent sleepless nights. The exhaustion at times lasted over twenty-four hours. Among approximately 35,000 Selective Service men, both general and limited service, we studied one hundred and forty-two in hospital and exercised them.

Disposition of Cases at Examining Barracks.

60 cases (45.4%) diagnosed hyperthyroidism—rejected.

47 cases (35.6%) diagnosed pulmonary tuberculosis—rejected.

21 cases (15.9%) diagnosed irritable heart—rejected.

2 cases (1.5%) diagnosed cirrhosis liver—rejected.

1 case (0.7%) diagnosed bronchial asthma—rejected.

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Disposition of Cases Observed in the Hospital.

44 cases (27.8%) considered normal—accepted.
52 cases (39.8%) diagnosed pulmonary tuberculosis—rejected.
21 cases (16.2%) diagnosed irritable heart—rejected.
25 cases (14.5%) diagnosed hyperthyroidism—rejected.

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It must be borne in mind that the cases listed here as hyperthyroidism, pulmonary tuberculosis, represent in no sense the number of men rejected for these diseases. They only represent the men sent in one case to the cardio-vascular examiner on account of tachycardia and in the other group the cases he referred to hospital for further study because of his inability to make at once a final decision. These cases all presented effort syndrome but were sorted out upon further study into their proper diagnostic class.

Cases of true effort syndrome had to be differentiated from the following conditions: 1. Chronic myocardial degeneration. This as a rule was not difficult. Unless the man had a history of definite signs of cardiac decompensation at some time following a severe illness he was not classed as chronic myocardial degeneration. Fifty per cent of our cases of effort syndrome dated their inability to exercise violently from some acute illness. There had never been any breakdown. They simply could not exercise without becoming exhausted. There never was dyspnea cyanosis or edema. We found only one such case among all the men which came before us. He had been passed before our advent into camp and was referred later from his command. He was a volunteer. 2. Hyperthyroidism: This differentiation was difficult at times. Some cases of effort syndrome had perceptible goiters and often some tremor of the extended fingers. My associate and I frequently differed in the opinion as to the presence of lagging lids and ability to converge for near vision. The final criterion was the response to graded exercises. The cases of hyperthyroidism, so-called, had the toxic symptoms and eye signs brought out by exercise. Several cases which were borderline cases were accepted before we had developed our methods and were admitted to the hospital from their commands with evident toxic symptoms. We felt that these cases were potential Graves' disease in whom symptoms and signs were brought out by camp life. It is in such cases that acute Graves' disease is seen. We do not believe that any shock is sufficient to bring an acute Graves' disease in a previously normal person. 3. Other diseases: In such pseudo-effort syndrome cases as chronic malaria, uncinariasis, asthma, etc., the history and examination serve easily for differentiation. 4. Simple excitement tachycardias and soft musculature from lack of exercise. In such cases graded exercises served easily in the separation from cases of true effort syndrome. 5. Incipient pulmonary tuberculosis. We found this group the most difficult one to separate from the group of irritable heart. The histories were often quite similar and the symptoms following exercise were in many cases identical. Careful examination and frequent reexamination did not always serve to furnish data sufficient for a positive diagnosis for army purposes. It was not possible, in every case, to have X-ray stereoscopic plates of the chest, and further, it was not always possible to interpret the plates as active lesions. At any rate we were not able always to make the positive differentiation. It was in this class that exercise proved to be so valuable. It was found that of all groups this group responded the poorest to exercise and the subjects invariably had a distinct, though at times slight rise of temperature following the exercises of even fifteen minutes Frequently increase in physical signs with the detection of rales accompanied the rise of temperature. In the doubtful cases graded exercises served as the final link in establishing the diagnosis. This febrile response was not noted in any other condition.

A method was thus developed at the Recruit Depot, Jefferson Barracks, Mo., which enabled us to sort out the cases of irritable heart before they were sent to training camps. This method was simple, practical, and could have been readily put in operation at any Recruit Depot or Mobilization Camp. Fortunately the war ended. We felt that we had kept our share of ineligible men out of service and, had the war lasted another year, we are sure that sorting could have been done so carefully that much valuable time and many hundreds of thousands of dollars could have been saved in the training of those unfit. In no case did we succeed in increasing the capacity of the men with irritable heart for exercise by means of the graded exercises. They were never improved. On the contrary, some appeared to be harmed even by slight exercise. We could not confirm the results

of Thomas Lewis et al, who were dealing with men invalided from the front. Approximately 20% were returned to full duty. Not one of our cases improved under graded exercises. All were unqualifiedly rejected for general military service, a few selected ones with special qualifications were later accepted in the limited service group.

We, personally, felt that this was a mistake as these men were not to be depended upon for even continuous clerical work.

(The discussion of this paper follows the next paper, "The incidence of Heart Lesions in Military Service," by O. E. Lademan, Milwaukee.)

THE INCIDENCE OF HEART LESIONS IN MILITARY SERVICE.*

BY O. E. LADEMAN,
MILWAUKEE.

*Read before the Medical Section, State Medical Society of Wisconsin, Milwaukee, Oct. 1st, 1919.

My work as Cardio Vascular Examiner at Camp Beauregard, Louisiana, in the Fall and Winter of 1917, was in conjunction with the T. B. Board. With few exceptions, the cases I examined were referred by this body. While it is not my intention to find fault or criticize, not a few members connected with this Board were anything but qualified to do chest work. As a consequence many cases of functional, as well as organic heart lesions escaped recognition. That the same state of affairs applies to other boards is evident by the fact that during my service overseas I discovered in my wards alone, four (4) cases of aortic leaks and one mitral stenosis in the ordinary routine physical examination. Some of the members of the Board were solely guided by the presence or absence of a heart murmur in referring cases to me. It thus goes without saying that this requisite necessarily eliminated many cases of functional heart cases, which from a military point of view rendered them wholly unfit for service. From my personal experience, both at Camp Beauregard and overseas, it would seem the valvular lesion most frequently overlooked was an aortic leak. Besides the five (5) cases already referred to as having escaped recognition, there were two at Camp Beauregard who had been examined by the Board but were ordered for a re-examination as they were regarded as T. B. suspects. During the re-examination of the one case deep breathing occasioned slight vertigo and faintness. The examiners became alarmed and requested me to examine his heart, resulting in the discovery of an aortic leak, the vertigo and faintness, of course, having nothing to do with the heart lesion. The other was a case referred by the Roentgenologist, who observed at the fluroscopic examination, a heart such as seen in aortic leaks. Clinical examination corroborated the diagnosis. There were 232 cases examined by me out of an approximate total of 25,000 recruits, giving a percentage estimation of less than one per cent presenting some cardio vascular anomaly, which, of course, is a figure entirely too small. It is quite possible, however, that this small incidence is partly due to the fact that most of the troops at Camp Beauregard were National Guardsmen, the men having repeatedly been examined and the wheat separated from the chaff as it were. The examinations, in addition to the use of the fluroscope whenever conditions warranted, were conducted as follows:

Place: Beaureguard. Date: Jan. 8, 1918.
Name: Wynns, Charles M. Age: 22. Occupation: Asst. Traffic Manager. Race: White.
Rank: Pvt., conscript. Company: H. Q. Regiment: 114th Supply Train. Home: New Orleans, La.
Apex of a heaving character.
Maximum heart impulse: 6. Interspace: ½ c. m. outside nipple.
Abnormal pulsations: 0.
Thrills: 0.
Cardiac borders: 5th sp. left ½ c. m. outside nipple 3rd sp. right of median line 1 c. m.
Murmurs: Diastolic heard over entire base, loudest over lower end of sternum.
Accentuations: 0.
Pulse rate: Standing, 120; dorsal position, 110; after exercise (hopping on one foot 100 times) 145; 2 minutes later, 107.
Arythmias: 0.
Vascular disease: 0.
Blood pressure: Systolic 130 m. m. Hg. Diastolic 78 m. m. Hg.
Abnormal signs for which case was referred to special examiner: Referred by T. B. Commission.
Diagnosis: Aortic insufficiency.
Recommendation of special examiner: discharge.

Of the total number examined there were 167 cases with heart murmurs as follows:

Four cardio respiratory, 126 accidental systolic murmur, 29 with a systolic murmur indicating a mitral leakage, three of these with a combined stenosis, and 8 diastolic murmurs indicating an aortic insufficiency.

The four cases exhibiting a cardio respiratory murmur need no further comment—all were assigned to full duty. The 126 cases with accidental systolic murmurs may be classified with reference

to audibility, as circumscribed pulmonary, circumscribed apical, those limited to the lower end of the sternum and those diffusely heard over the entire heart slightly transmitted with the maximum intensity at either the second left I. C. S. apex, or lower end of the sternum. Some were heard in both erect and recumbent postures, others only in the lying position and some only audible with cardiac acceleration. There were some very loud, so-called freak systolic murmurs, transmitted to the left axilla but lacking all other evidence of a valvular lesion. A fluroscopic examination was made in these cases and a full history always taken into consideration. These cases were all assigned to full duty—and during my stay at Beauregard, none were sent back on account of cardiac disturbance. It was my good fortune, while overseas, to have in my wards one of these freak systolic murmur cases. Although he had seen combat service, his heart was the same as when originally examined at Beauregard.

Of the 29 cases of mitral leakage, there were 22 who presented no evidence of myocardial damage other than a slight primary or compensatory enlargement of the left ventricle, indicating but a slight leak and were accordingly assigned to special service. Four cases showed signs of myocardial damage, either the result of large leaks or previous injury to the myocardium. These, together with the three cases of combined stenosis, were rejected.

I do not share the view, as claimed by some of the cardio vascular examiners, that mitral stenosis was a frequent lesion among the recruits. While I am aware this condition sometimes escapes recognition, particularly if auscultation is only made in the erect posture without cardiac acceleration, I believe the diagnosis in some of these cases, if not many, was erroneously based on a vibrating chest wall in the precardical region and misinterpreted by the palpating hand as a thrill. I recall just such an instance overseas. The case had been diagnosed as a mitral stenosis, classified as a D case and about to be sent home. I found the lad propped up in bed with a back rest, a position he assumed both night and day. Examination, except a systolic murmur with maximum intensity in the 2 left I. C. S., was negative. He was assured by me that if he made good as a ward master's assistant, he wouldn't have to worry about going back to the front. He made good and thereafter slept comfortably and soundly without the use of a back rest, illustrating that malingering overseas was also a factor to be contended with.

Of the aortic insufficiencies, seven were rejected. One of these, a First Lieutenant, absolutely refused to leave the service. As his leak was slight as indicated by the size of his left ventricle, he was transferred from the artillery to the ordnance department. A concomitant systolic murmur, not included in those already mentioned, was present in five cases. With the exception of a single case with apex in the 6 left I. C. S. and 2 C. M. external to the midclavicular line, all were in 5 I. C. S. ranging from 1 C. M. within to 1 C. M. external to the nipple line. Noteworthy was the fact that in all cases, save the one with the large left ventricle, the diastolic pressure was within the normal range, the readings respectively being 82, 70, 84, 78, 86, 74, 78. The reading in the excepted case was 54. This was also the only case exhibiting any vascular phenomena to the palpating finger, such as encountered in aortic leaks. Unfortunately we had no sphygmograph to make tracings. The relatively high diastolic pressure and absence of vascular phenomena is explained on the ground that the leaks were slight permitting but a small amount of blood to regurgitate, affecting but little the negative or diastolic pressure. The four cases of aortic regurgitation discovered overseas, which have already been referred to, had all seen combatant service, but none showed any ill effects as far as their hearts were concerned.

There were five cases with an enlarged left ventricle other than valvular lesions, two arterio selerosis with myocardial degeneration of syphilitic origin, one cardio renal disease, one hyperthyroidia and one of idiopathic nature. All with the exception of the latter were rejected. There were three cases of mal posed hearts, one dextra cardia with an accidental systolic murmur, the two others showed displacement to the left. Physical examination being negative with reference to any functional disturbance, the fluroscope showing a normal sized heart, these cases were assigned to full duty.

While at Camp Beauregard I was requestd by the Chief of the Medical Service to examine a hospital patient. The clinical findings were those of a patulous ductus arteriosis. Quite a few cases were sent to me by the division or regimental surgeons with subjective signs of shortness of breath palpitation pains about the heart, etc., occurring during drill or strenuous exercise. Most of these feigned heart disease as no evidence of either func-

tional or organic disease was discernable. These were all sent back with the recommendation of full duty.

Among those referred, however, were three cases unfit for military service. Two of these, although there was no evidence of organic heart disease, were far below the standard both from a physical and an intellectual standpoint. Both responded poorly to the functional heart test and belonged to the class of constitutionally inferior individuals. The other exhibited a drop heart and belonged to the class of so-called habitus enteroptcus or defective physical development.

Many of those referred belonged to the neurotic class and were sent and disposed of by the psychiatric board. There were many cases sent to me by the T. B. Board with no evidence of a cardio vascular disturbance other than the statement of the recruit that he had heart disease, a favorite stunt among those trying to escape military service. Some, however, were sent on account of a rapid heart action.

An accelerated pulse, above 120 per minute, was present in a very large number of those examined. This in many instances was purely psychic. Fear, it seems, was the chief factor. Often it was observed that the pulse rate at the beginning of the examination was higher than after the functional test of 100 hops on one foot. For the same reason the blood pressure, particularly the systolic, was uniformly far above the normal. The highest blood pressure recorded was in the cardio renal case, systolic 222, diastolic 150. A disturbed cardiac rythm was noted in 27 out of the total number of cases examined. Seven of these, including two cases of mitral insufficiency, were of the sinus type, the balance were all extra systoles. No other variety of arrythmia was recorded. Of the first group (sinus arrythmia), all excepting the two cases of mitral leakage, were assigned full duty. There were two rejections among the dextra systolic group, one a mitral insufficiency with damaged myocardium, and the other chronic myocarditis of a luetic nature. Excessive use of tobacco was unquestionably the responsible factor in the majority of cases in the dextra systolic group. It was rather interesting to note the appearance of the dextra systoles in these cases. In some they were more or less constant at all phases of the examination, in others the dextra systoles were only manifest with an accelerated heart beat, while in some they were present with a moderate pulse rate, disappearing entirely with an accelerated heart's action. Others again evidenced them in the standing posture, disappearing entirely in the lying position. In some they were evident only during the period of cardiac readjustment, that is, during the period of rest immediately following exercise. It was also noted in some cases exhibiting dextra systoles at all phases of the examination that they became most pronounced during this readjustment period.

While overseas dextra systolic arrythmia had been noted in many who had seen combatant service. Other than an occasional tug in their chest and throat, complained of by some, nothing abnormal was evident. Several cases of cardiac disturbance, as palpitation, shortness of breath, etc., were noted following influenza and pneumonia. None showed evidence of myocardial involvement and the condition was regarded as a functional one. It is quite possible, however, some of these may show signs of a true myocardial condition with a sufficient lapse of time.

Many cases entered the hospital with a functional cardiac disorder designated by the euphonious term of "Effort Syndrome" or neurocirculatory Asthenia." While this neurotic disturbance of the heart did exist, it is my opinion it was less frequent than supposed. The sovereign remedy in a very large per cent of those at Base Hospital 22 who claimed to have been gassed complaining of heart pains, shortness of breath, etc., was the signing of the Armistice. In one of my gassed cases presenting a true cardiac neurosis, there was a persistent ¾ tact or gallop rythm. Whether the deleterious action of the gas as such on the cardia vascular system was responsible for the neurosis or whether a psychic trauma played a role, further studies must determine. I have seen the same functional disturbance in individuals who were not gassed but met with other psychic traumata incident to battle. The outcome of these cases under a proper physical and psychiatric course of treatment, as far as my observation goes, was favorable.

DISCUSSION.

PRESIDENT: These two papers are now open for general discussion.

DR. C. E. NYSTRUM, Medford: Mr. Chairman and Gentlemen. I should like to ask Dr. Warfield whether there was any definite form of exercise prescribed in order to get the rising temperature in incipient tubercular infection, and as to the length of time they were required to keep up the exercise.

Dr. A. A. Pleyte, Wales: Mr. Chairman and Gentlemen. At the camp in North Carolina where I was stationed we had the same difficulty that Dr. Warfield has spoken about in trying to diagnose effort syndrome in the irritable heart. In fact, most of the times we would refrain from making an absolute diagnosis. When we got one of the men from Lakewood to come down and help us we made the diagnosis much more easily. The symptoms were mostly confused with lesions in the pleura and chest, on the left side, and also, as Dr. Warfield mentioned, with what we call the disorder of hyperthyroidism. We had recognized in most of the cases that there was no condition in the chest causing the symptoms of effort syndrome. On the other hand, we secured a little information from the cardio-vascular board as to what the real nature of the trouble was. We knew that it was no great disturbance, no evident heart lesion, still the X-ray would give us little information either. And if we came in with a diagnosis of some possible lung lesion, we were told to go back, that there was nothing to be found, the heart was absolutely normal. So these cases were held under observation, sometimes for long periods of time in the first period, and not so long after we got more acquainted with the syndrome.

Since coming out of the service, and in taking care of the boys at St. John's Military Camp we have had the same thing to contend with, and it has been much easier for us to make diagnosis. Night before last, while 500 boys were standing at attention, 4 fainted; they were quite well afterward; but it shows the amount of that trouble that is present in different boys. A rest of an hour seems to do them a great deal of good.

We used some epinephrin down in North Carolina, but I do not think we had enough use of it to enable me to say much about it. We thought that it helped.

Dr. C. M. Schuldt, Platteville: Mr. Chairman and Gentlemen. I might say that the Medical Advisory Board that I was a member of in the southwestern part of our state ran across quite a large number of rapid hearts. In the beginning, when we could not find any trouble with the men otherwise, we sent most of those cases right on to camp. We would examine them one day, and have them come back for further examination either the next day or the following day. We found, however, that a large percentage of those we sent to camp were sent back to us again. At that time most of the men were being sent to Camp Grant, and the diagnosis was hyperthyroidism, although we could not find further symptoms of that trouble. Several of the men whom I remember very distinctly as men who had been doing hard labor right along, and that I personally knew, had very rapid hearts even after repeated examinations. But we sent them all to camp, and they came back again, some within twenty-four hours. I have seen and examined several of those men since, and they were apparently perfectly well, although some of them were doing physical labor working in the mines. It is pretty difficult to say what the trouble was with those men. Later on we got so that we did not send any of the rapid hearts to camp. After making two or three examinations with the same result, we would not send them to camp at all, whether we could find any cause for the trouble or not. I presume that in some of those cases the condition was just as described by Dr. Warfield in his paper, only we did not know what the trouble was at that time.

Dr. D. C. Boyd, Kaukauna: Mr. Chairman and Gentlemen. In the early part of his paper the doctor spoke of the absence of the cardio respiratory sound, and passed it off casually, leaving the impression that everyone ought to understand the significance of the absence of the cardio respiratory sound. I want to say that personally I do not understand that, and should like very much to have an explanation of it for my personal benefit.

Dr. Warfield in his paper mentioned that the use of epinephrin was injurious to these patients, and I should like to ask him if in the use of epinephrin he formed any opinion as to the casual relationship between internal secretions and these irritable hearts.

Chairman: Is there further discussion? I should like to ask Dr. Warfield whether in the work of the Peabody group they noticed any marked difference in the basal metabolism between these irritable heart cases and the so-called hyperthyroid cases.

Is there further discussion of these papers? If not, I will call on Dr. Warfield to close the discussion.

Dr. L. M. Warfield: Mr. Chairman and Members of the Section. I will first answer the questions which have been put to me. Someone asked if there was any definite form of exercise in these incipient tuberculosis cases which brought out the fever. In reply I would say that we used only the ordinary setting-up exercises. They consisted, of course, of the arm and leg movements, the jumping backwards and forwards, and the regular preliminary setting-up exercises which were used in the Army. We modified them to some extent, so as to get as many groups of muscles as possible working in a given period of time, say from five to ten or fifteen minutes.

Relative to the question as to whether there is any relationship between the internal secretions and these irritable hearts, I would say that these men are very sensitive to epinephrin.

The whole question of irritable heart is one in which the etiology is quite unknown. It is presumably some weakening or loss of tone of the sympathetic autonomic nervous system, so that adrenalin or epinephrin would naturally produce a greater amount of reaction than in a normal individual. Just what it is, however, is absolutely unknown. As I say, many of these cases came to the psychiatrist and were called psychoneurosis or neurasthenia. Those same men came to us, and we diagnosed the cases as irritable heart, and we and the psychiatrists would have a good many discussions of the question whether this was psychoneurosis, constitutional inferiority, irritable heart, or what it was. I do not think it is always possible to say, because there is a large element of neurosis in many of these cases. Dr. Lademan has very rightly said that after the armistice thousands of these men suddenly became well over a period of a few months, and it is unquestionably the fact with a good many of the cases which were invalided

from the front. These men we were dealing with were not combatant troops. Those we were dealing with were undoubtedly men who, in many cases, had neurosis pure and simple which expressed itself in this functional disturbance of the heart.

Dr. Jermain has asked with reference to the basal metabolism between the irritable heart and the hyperthyroidism. As far as I remember from the experiments carried on at Lakewood they showed that epinephrin increased the basal metabolism in the normal, in the hyperthyroidism, and in the irritable hearts, in the relationship expressed; that is to say, less in the normal, a little more in the hyperthyroidism, and most of the cases of true irritable heart.

Unfortunately I did not hear all of Dr. Lademan's paper, but there are one or two things about this question of heart murmurs that to me seem rather interesting. I did hear him say, however, that he found a great many cases of so-called presystolic thrills which were pseudo-presystolic thrills.

Dr. Lademan: I did not mention that. I said many of those cases with a vibrating chest wall (pseudo thrill) were regarded as a mitral stenosis.

Dr. Warfield: Didn't I understand you to say there were a good many of those cases with vibratory thrill which were not mitral stenosis?

Dr. Lademan: Yes.

Dr. Warfield: That is what I was about to remark. We found as well that a great many cases which gave a certain pseudo-presystolic thrill had nothing to do at all with the question of mitral stenosis.

Relative to the remark that was made here a while ago about the men sent from the advisory board to the camp and then sent right back again, I think we must remember that all the information in the world was not altogether corralled among the cardio-vascular examiners in the various camps; that the men who were on the cardio-vascular boards in the various camps were men who were sometimes the best men in the country, and sometimes men who knew very little about cardio-vascular disease, and because it happened that men on the advisory boards had cases at once returned to them did not show necessarily that the men on the advisory boards were wrong. We had some little experience in that way in the state of Wisconsin. A number of men were sent from here to Camp Grant and to Camp Custer, and they were frequently returned from the camps with the diagnosis of mitral stenosis. Later on these cases were again gone over by competent men here in the State of Wisconsin, and there was absolutely nothing found. These men, so far as could be determined, were perfectly normal. I later found out from Lieut. Col. Conner of the Internal Medical Section in Washington, with whom I had some conversation, and also some correspondence, that the man in charge of the work there, a man from Detroit, was later transferred from that service to some other climate, because it had been recognized that the work done there was not satisfactorily done.

It is interesting to find out the attitude that was finally taken toward the cases of mitral systolic murmurs. I feel that we can say with almost absolute justification that any systolic murmur heard at the mitral area, in the absence of hypertrophy of the heart, is a negligible murmur, and probably is functional in measure, and not organic. There are some cases of aortic insufficiency, as I think Dr. Lademan stated, that apparently are able to carry on the most excessive amount of work without any disturbance at all. It is my experience that those cases did not show in the blood pressure the extensive depression of the diastolic that is so characteristic of the very large numbers of aortic insufficiency with the very large leaks. I do not say all of these men, but a great many of these men were able to do a large amount of excessive military service, and, as Dr. Lademan says, competent service—I have had no experience with that—and they had absolutely no symptoms at all. Many men that we had coming from the camps had been football players, and I remember two or three men who had been runners, and it is probable that no other form of exercise is quite so strenuous as the short-distance running. These men had, so far as we could determine, aortic insufficiency, and yet they were men who were apparently perfectly well and had always been perfectly well, and never had any symptoms with regard to the heart.

When I went down to the barracks I found out that they were diagnosing many cases as aortic stenosis. Many men had been sent back from the camp for aortic stenosis when there was a rather loud systolic murmur at the base of the heart. Of course, it is well known that the systolic murmurs at the base of the heart are almost invariably functional, and that it is unusual to find a true aortic stenosis. For men to be diagnosed as aortic stenosis was, of course, a matter of insufficient knowledge of cardiac lesions on the part of the men who were examining the cases.

President: Dr. Lademan will please close this discussion.

Major O. E. Lademan, Milwaukee: Mr. Chairman and Gentlemen. There is not much to say in my closing remarks. Referring to the question asked of me relative to cardio-respiratory murmurs, these are truly pulmonary sounds. The action of the heart on the overlying lung tissue forces the air through the bronchials, producing a soft systolic murmur. When the lungs are inflated the murmur is very pronounced, disappearing with deflated lungs.

With reference to Dr. Warfield's discussion, he remarked it was often difficult to distinguish between the so-called irritable heart and hyperthyroidia. This is quite true. However, a differentiating feature in this case, one which Dr. Warfield did not mention, and one which I have repeatedly observed in these cases of functional heart disease while overseas, was that during sleep the heart rate of these individuals was quite normal, while the tachycardias of toxic origin such as encountered in hyperthyroidia is not affected by sleep in the same manner. I am pleased to hear that Dr. Warfield shares my views with reference to the infrequency of mitral stenosis among the recruits, as it is claimed by many cardio vascular examiners that this was by far the most frequent cardiac lesion. I may also add that I quite agree with Dr. Warfield that systolic murmurs,

whether circumscribed or transmitted, should never be regarded as indicating a valvular leak if unaccompanied by other signs.

MAJOR L. M. WARFIELD, Milwaukee: Mr. Chairman and Gentlemen. I would like to add just one thing more, which I intended to say in my previous discussion in regard to these cases of irritable heart, and that is that the pulse rate is not increased when they are quiet, nor is the blood pressure in any way changed. Now that means that a man who comes up for examination with a perfectly normal pulse may yet have irritable heart; that a man who comes up for examination with a pulse of 120 is apt not to have an irritable heart but to be the subject of excitement. So the mere fact of the presence of tachycardia alone—that is, tachycardia during quiet—does not mean that that man either has or has not an irritable heart.

RECIPROCAL RELATION OF WISCONSIN WITH HER NEIGHBORS.

BY JNO. MORRIS DODD, M. D.,

ASHLAND, WISCONSIN.

My object in presenting this subject before this body is to call to the attention of the profession of the states bordering on Wisconsin, the lack of uniformity in our medical laws. The inquiry continually comes as to why a doctor licensed to practice in one state should not be equally qualified in any other state. I wish to bring out discussion on a subject that will ultimately lead to a solution of the question of common license to practice in any or all of the states of the union. It is understood, of course, that I do not claim to be presenting a new subject for it is one that has claimed attention of some of the leading minds in our profession for some time past.

Laws regulating the practice of medicine have a two-fold purpose. Primarily, to protect the public against incompetent or dishonest practitioners and, secondarily, to protect the reputable practitioners who have prepared themselves by a long laborious and expensive course of education and preparation and are honestly trying to prevent, relieve, and mitigate the physical ills of their fellow beings. There have always been hanging to the skirts of the medical profession a varying number of cults, healers, etc., who soon get to the point which they believe is the acme of medical knowledge and endeavor by all sorts of short cuts to get into the circle where they may be considered on an equality with the educated and competent doctor. They seek, not to rise to the heights of scientific achievement, but rather to bring all else down to their own level.

There is ever the charm of the miraculous, the lure of the mystic, belief in spiritual endowment, and Divine call that appeals to the afflicted, and calls into service a class of practitioners who are willing to administer to or impose upon them. There are some of these cults that might be useful branches of the great tree of medical knowledge, but the trouble with them is that they believe themselves the main trunk and that the regular medical profession is only an organized group seeking its own protection. Much capital is made by these people out of the expression of medical trust seeking thereby to invoke the common dislike of trusts and in true Bolshevistic style bring distrust upon the real benefactors of mankind. Unfortunately, education and enlightenment have not yet removed us from the sphere of their influence for the most educated and refined are among the most ardent devotees of the rankest quackery.

There is another class educated as the rest of us is, understanding human nature better than the most of us, commercial in spirit, selfish in nature, believing that the one thing worth while in life is money and to acquire it are willing to prey upon the frailties of humanity. They are cunning advertisers and play the game well. They are always with us, and though we at times despair of ever being rid of them, their advertising quack is undoubtedly becoming less numerous as his activities are restricted by law and his methods are brought into the light of day. To this class the credulity of the people is a rich asset, and the imaginary more than the real ills of humanity furnish an abundant harvest. Laws regulating the practice of medicine are now operative in all the states, but each has its own and the lack of uniformity in them makes it necessary to administer each separately, therefore there is a department in each state whose function is to enforce this law.

In Wisconsin the medical practice act safeguards the health of the people about as well as it is possible to do so under present conditions. The enactment of the present law provoked a storm of protest from some of the doctors over defects that were more apparent than real. True it falls short of the ideal and seems to work hardship sometimes on worthy members of the profession. It is impossible to correlate the views of all into one concrete law. Only two examinations are held

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Read before the Tri-State District Medical Meeting, Rockford, Ill., September 1, 2, 3, 4, 1919.

yearly, and no temporary permits to practice are granted so that only at the January and June meetings can the examination be taken. Applicants for reciprocal license may apply at any time, and as the reciprocity committee meets on call it is possible to favor these applicants as to time. In the days when temporary permits were granted, doctors came into the state, became established in practice, bought property and settled their families, and when it was found that these men could not qualify, it was a double hardship to compel them to sell out and move.

This happened in a few instances, and led to the rule that temporary permits would not be granted under any circumstances. As few doctors are now coming up for examination except those just graduating, the winter and summer sessions meet these requirements very well. We have removed the restrictions as to reciprocity from those who have been commissioned in the Army, Navy, and Public Health service, and admit to reciprocity all honorably discharged commissioned officers of these services if they graduated from accredited schools. This has not been an unmixed blessing, for some who could not get into our state before on account of the low grade of their schools, are since the war trying to come in under this reciprocal waiver.

We have a provision for the itinerants, who by the way cannot be reached in any other manner, and we issue an itinerant license at $250.00 per year, thus keeping them under surveillance of the Board. We say to the Christian Scientists in substance "The Lord be with you" for we can't and to the Chiropractor, "You must keep before the public a placard proclaiming that you are not licensed in Wisconsin," and we patiently wait knowing well that these fads will run their course and that something else will come along to tickle the credulity of the public.

It is evident that we do not possess a model medical practice act in our state and whether or not it is possible to get one through our State Legislature is a question on which we are divided, and we hesitate about trying to change it for fear of getting something worse.

With all the short cut people deluging our law making bodies with claims for recognition and the propaganda against the so-called Medical Trust, some feel that we should be satisfied with what we have while still others maintain that we should permit the wiping of all medical laws from the statute books rather than even mention the quacks negatively. The middle course has prevailed in Wisconsin and time only will tell if we are right. The principal object of our law is to protect the public and yet the entire expense of administering the law is borne by the medical profession and its subsidiary branches which are licensed or registered by the State Board of Medical Examiners. No funds are provided except those that come in as fees through the Board. In other words, the medical profession is permitted to protect the health and lives of the people if it will pay its own expenses. The powers of the Board are limited when it comes to regulating the conduct of its licentiates, and few seem to know that it is only within the province of the courts to deal with the wrongdoer. Our legal department is ever ready to co-operate with the local authorities, but it is generally hard to get evidence in sufficient shape and form for legal action, and even then juries convict these people so rarely that it does not seem worth while to bring action against them.

Wisconsin reciprocates with her neighboring states on an equitable basis, and it is seldom that satisfactory arrangements cannot be made for residents of one state to obtain a license in a neighboring state, but only those who have been licensed after examination can be licensed by reciprocity in our state.

We find difficulty sometimes in getting the older practitioners to take the examination which is required of all who cannot obtain license by reciprocity. Some feel that it is beneath their dignity to submit to an examination when they have occupied high places in the profession elsewhere, and others fear the examination after having been out of school so long. To the latter a liberal allowance is made for the years of practice and the reputable and ordinarily qualified practitioner need not fear our examination.

Before writing this paper, seventy-five letters were sent out to physicians along the Wisconsin borders, asking what difficulties, if any, they had met with in practicing across the state line. Many interesting replies were received. Very few of them revealed a desire for protection from competition with brother physicians across the border. Some were licensed in both states and many were not. Many were content with conditions as they are. One letter, though pessimistic in tone, revealed what is evidently in the minds of some of these border physicians, and is as follows:

"Regarding your request as to conflictions with medical laws of adjacent states, will say, that I went to considerable expense and trouble to fit myself to practice medicine in Wisconsin, and later on, I had to go to further expense and trouble to comply with the constantly increasing requirements of Minnesota. I paid my $50.00 'reciprocity' fee, et cetera, and now a new man comes into town and goes over into Minnesota territory among my patients, without any license and without any extra expense and cuts the already paltry fees. Generally speaking, the Stillwater men come over here, and we go over there without friction, but you know you have to register to have any standing and to collect.

"My observation of medical laws in general tends to give me Bolshevistic impulse. They work well for the quacks, cheap skates, and Christian Scientists, say nothing of the Chiropractors, who display their 'not licensed' signs as their authority to practice, these fellows either subvert the law or in some way get by it, while the legitimate and ethical student of medicine has to comply or does so at least to remain in good standing.

"Like many another fellow, I have wished to go West to practice, but after complying with all the requirements of our State Board, and with all the laws of common sense and decency, I would still have to 'take the board' in Washington, Idaho, or Montana. No other man seeking to make a livelihood in this great incongruous jumble of states, except perhaps the dentist or horse doctor, has to go through such a hold-up, after he is shown to be qualified in his home state. He may run a store, a creamery (and with it a laboratory for disease germs), sell cars or cigars, or what not, and pay no license for coming from another state. At least if he pays any, it is small. Lawyers have no trouble passing 'The Bar' of any state they wish to inhabit."

From Marinette, Wisconsin, comes this message, after inquiries among the doctors there. "The men are unanimous in their declaration that the state laws have in no way interfered with the legitimate practice of medicine. Very few men in this city, or its sister, Menominee, hold a license in a neighboring state."

One man who has practiced on the Minnesota border for thirty-seven years has had no trouble. From Iowa comes the message: "I have practiced medicine in this place for 49 years, and not during that entire period, have I found by experience or observation that the state medical laws interfere with the practice of medicine beyond the state border."

From Minnesota: "I have practiced here for 35 years and all of that time, have been called frequently into Wisconsin opposite here, and have never been questioned or molested in this practice."

A Wisconsin man says: "What is right in Wisconsin ought not to be a crime in Minnesota."

One calls attention to the need of uniform regulation regarding the reporting of births, deaths, contagious diseases, and quarantine. One has practiced on the border since 1874, and has not been disturbed in his practice by law. One says he hardly thinks of going into Wisconsin as going out of the state.

One local experience from Michigan, is to this effect, "that there has been no hindrance nor interference in any way by the neighboring profession, or the civic authorities where eligibility was not in question, and the reverse is true regarding Wisconsin practitioners who cross our boundary," and offers this as a suggestion: "To all reputable practitioners of regular medicines, practicing in towns or communities at or near our borders give free permission for entry if they abide by your laws, ethical and legal." Marinette and Menominee report free interchange of services without any friction, and very few are licensed in the opposite state.

From Illinois comes this statement: "No one has interfered with my work across the line in Wisconsin, and I have been under the impression that the Wisconsin law contained a clause permitting such practice."

An Iowa physician says: "I should have registered in your state years ago, when I might have done so, but neglected it. I have long been of the opinion that a medical degree should not be confined by state lines."

From Beloit comes the message: "The laws are very fair, and I do not think work any hardship."

A brickbat that comes from Minnesota: "I believe that there ought to be a reciprocity between all the states if they have reasonably high standards for the issuance of medical license. Generally speaking, the flourishing of the quack business does not appear to hurt my business noticeably as the people who patronize them probably would not doctor with me anyway, at least for the real or alleged ailments for which they consult these char-

latans. However, whether it be because of inadequate Wisconsin laws or because they allow these healers to get so large a following before they attempt to prosecute them in Wisconsin, it becomes practically impossible to get them convicted. I have known at least two notorious quacks who had to get out of Minnesota, but practiced with impunity in Wisconsin, if indeed they are not doing yet. Sometimes they locate just east of the St. Croix, or near it, and people have been known to go by wholesale from Stillwater over the St. Croix bridge to see alleged doctors who were not allowed to practice in Minnesota."

There are a number of other letters which make interesting reading, but to quote them here would make the paper unduly long. They show that the doctors along the state border are practicing without due regard to the state laws, but there is no evidence that they are doing this in wilful violation of the law, and are not exceeding their moral rights.

By these letters and from many other sources, we are admonished again and again that a license in one state should be good in any other state, and that there should be some tribunal before which one could qualify once for all. Various agencies are at work to bring this about and the National Board of Medical Examiners has been the outgrowth of this demand. It seems, however, that this Board has no legal recognition in the states and consequently its diplomas cannot be recognized. We feel that this will be brought about in the near future, and we should bend our energies in this direction.

In order to obviate the necessity of having to take the examination at some future time when they have become rusty on some of the subjects, we frequently find men taking the examinations in a number of states to any of which they may want to move in the future. I, in common with the rest of the profession, hope the day is not far distant when one license will enable a doctor to practice in any state of the Union, and for a general awakening of the people to the fact that it is only the fully qualified physician who is to be entrusted with the lives and health of the people, and that only from this source has ever come any good or lasting benefit to humanity.

In the meantime, the parasites hang on and clamor for recognition from our law-making bodies and they present a solid front.

In Wisconsin the Osteopaths are just now invoking the aid of the courts to admit them to the examination in surgery, which means that, if successful, there is no barrier to their having the full rights and privileges of the medical profession. It is incumbent on the whole medical profession to rise in their might and prevent the Osteopaths from being admitted to full membership in medicine or surgery until they have taken the full course prescribed for the regular medical profession, and when they do, we are confident they will want to be real doctors and not short course men.

There are those now hearing this paper who, when contemplating the efforts the profession has made and is making for the protection of the people against the imposters who are continually preying upon them, have often asked: "What's the use?"

Some say in their haste that we should throw all the medical laws to the winds and not try to regulate the healing art, but no one will insist upon this after sober reflection. No true disciple of Aesculapius can get away from the altruistic bond which holds him to his duty to his fellowmen and becomes stronger as he grows older in the practice of real medical art in spite of the pessimism which at times comes over us all, when we experience some of the many disagreeable phases of our work and associations.

To do away with the laws regulating the practice of medicine, thus giving free hand to the quack and charlatan, would reverse all incentive to real scientific medical work, and few men of scientific attainment would want to be in a profession among such associates. Medical science would soon drop back a century or more and we must not forget what has been accomplished during the period of the past half century.

The generation coming has inherited a priceless boon from the one now passing, and as we pass along our achievements and those of our colleagues and predecessors, let us see to it that mankind shall be assured of a continuance of the blessings true medical science has conferred upon it. We cannot do this better than by establishing uniform and high standards of medical education and then grant authority to practice which will be equally honored in all the states.

DISCUSSION.

Dr. Wahrer, Ft. Madison, Ia.: Mr. Chairman, I would like to offer a few thoughts on the subject. You remember what we did in 1776. It was reiterated in 1812, and when Jackson said in 1830 that "by the eternal, the Union must and shall be preserved. Send for

General Scott," we did it again. This same principle of United America not consisting of states but being one country, that America is and not are, was forever fixed in 1861. Here lately, while we got hysterical and began frothing at the mouth, still the idea of Americanism was wonderfully emphasized. Good for the emphasis! I want to place the same kind of emphasis on something I want to say.

I am in for universal suffrage. (Laughter.) I mean universal reciprocity; it's all the same. My mother brought me from Germany when I was a little babe in arms, but I became an American and expect to die such and leave American principles instilled into the hearts of my children, two of whom were in the service of the United States Army. (Applause.) I am in for universal reciprocity. A man who is good enough to practice medicine in the State of Iowa is good enough to practice it in Wisconsin, ditto Illinois and any other one of the forty-eight states of the United States. (Applause.)

I have been following up the educational numbers of the Journal of the American Medical Association. I have taken an interest in education all my life and especially in medical education, and I have noticed a great many states that have lain back complacently on the fact that they have the oldest medical colleges, that, by the way, have had to be prodded up by the American Medical Association to come up to their proper class. Those of you who are not acquainted with this will find it in the Journals; you will see how they have gradually stepped from Class C to B and from B to A. You will be surprised who some of the schools are, too.

You know there is a shortage of doctors all over the United States. In these days of automobiles and telephones and telegraphs and flying machines, it becomes almost impossible to get a doctor of any kind to locate in the smaller towns and at the cross-roads, where they are still needed, because people are sick there as well as anywhere else. We can't send to the metropolitan cities to get help for these people every time we need it. I am in for medical education of the highest kind, but I believe that when a man is able to practice in one state of the Union, he should be able to practice in every state of the Union, because the Union is one inseparable and forever; we are one people. We are not a number of people. I don't believe in states' rights; I don't believe in boundaries for science. Science is universal and medical science is especially so all over the world. We cannot pen it in one place and let one state stand up before us and say: "We are the people and we will do as we see fit."

I was present at a meeting of the American Medical Association, about twenty years ago, when they were talking about a certain man and questioning his authority. Somebody got up and said: "Nicholas Zend (?) says he is all right." And some wag got up and said: "Who in the hell is Nicholas Zend."

"Why, he's from Chicago."

"Where is Chicago?" came the retort.

Isn't that enough? (Applause.)

SUGGESTIONS FOR THE TREATMENT OF FRACTURE OF THE RADIUS AND ULNA AT THE MIDDLE THIRD.

BY CHARLES H. LEMON, M. D.,

MILWAUKEE, WIS.

The subject under discussion, while elementary, is yet of sufficient importance to the younger practitioners of surgery to justify a few minutes' consideration before a Society of this character.

If the textbooks on fractures had treated the subject intelligently there would be no excuse for taking up valuable time in discussing it. The textbooks, however, do not treat the subject intelligently and many of the illustrations are misleading and the real dangers that confront the surgeon as well as the skilled surgeon are not presented and are not usually anticipated until valuable time has been lost when corrective measures could be applied and disaster averted.

I may be pardoned for suggesting to you that next to fractures of the hip joint the most difficult fractures I have experienced have been those of the middle third of the bones of the forearm. These have occurred usually in children between the ages of three and twelve. In frequency of numbers, those that have been referred to me for subsequent treatment have been exceeded only by fractures occurring in the region of the elbow joint, also apparently difficult, but really very simple for obtaining ideal results if the proper technic is followed.

When we recall that the forearm of children is usually plump, and that the bones are small and the muscles in a developing stage, very active, and bearing a relation to each other of two to three, as between extensors and supinators on the one hand and flexors or pronators on the other, we realize that we are dealing with anatomy which has potential possibilities when through the breaking of the bones at the middle of the forearm, a loss of balance occurs.

A study of the flexors and pronators in their relation to the extensors and supinators would be a most helpful one for the younger students of surgery. The fact is that when the bones are broken at the middle of the shaft, the flexors immediately become the bow-string which tightens from day to day and produce a mathematically certain shortening by flexion on a line drawn from the palm to

Read at the Tri-State District Medical Assembly held at Rockford, Ill., Sept. 1-4, 1919.

the elbow. Not once in a hundred times do surgeons realize the fallacy of attempting to fix these fractures by the application of anterior and posterior or more frequently internal and external splints. The usual picture that is presented by these cases when they come for review by consultation because of great deformity, is an anterior splint, usually of wire, less frequently of wood, extending from the fingers to a point in front of the elbow, or less frequently encased in a plaster of paris dressing and without exception with the bones of the forearm in a position midway between pronation and supination, with the thumb up.

It is an elementary principle in the treatment of fractures of the long bones that in order to overcome overriding or bowing that the joints at either extremity of the long bone involved must be fixed by whatever apparatus is used for fixation. It becomes obvious, therefore, that in the treatment of fractures at the middle of the shaft of the bones of the forearm, not only must the hand and wrist be fixed but the entire elbow joint, including at least a third of the shaft of the humerus, must also be fixed and used for extension.

Referring again to the textbooks, we are told that in the position midway between pronation and supination the radius and ulna are at their widest point from each other. I have examined articulated skeletons with a view to corroborating this statement, and my observation is that this is not the fact. Further, with the bones in this semi-prone condition at the wrist, it is impossible for anyone to determine that they are even apposed at the point of fracture, no matter what the amount of extension and counter-extension may be.

Having this difficulty in mind and with a view also of neutralizing the one-third greater pull of the pronators and flexors and being assured that the relative position of the bones as to distance from each other is quite as great, if not equally so, as has been said is true of the semi-prone position, it has been my practice for many years to treat all these fractures, without exception, in a supine position with the palm of the hand up so that a plane passed horizontally through the arm and hand would divide the arm and hand into anatomically correct position of an anterior and posterior surface.

If one familiar with the use of plaster of paris has in mind the plumpness of these little forearms, which permits of bowing within a cast applied a few days after the fracture has occurred, when there is acute swelling at the site of the fracture, he will readily see the advisability of reinforcing the cast at the point of fracture. I have many X-rays showing that this condition actually occurred. In one instance in the hands of a usually careful man, who overlooked the necessity for strengthening the cast at its middle point, and who also failed to over-correct the deformity, anticipating the reduction of the swelling, he was obliged to defend a suit of malpractice because of this oversight. The cast was applied in the usual manner with the palm up and from the knuckles to a point one-third above the elbow, and at the end of three weeks, when the cast was removed, an X-ray taken in the lateral plane, shows a line, drawn from the lower anterior end of the radius to the upper part of the ulna, that resembles the string of an Indian's bow. This entire bowing occurred within the plaster cast, as the swelling receded, and the flexor muscles asserted their balance of pull over the extensors. Again, most of these fractures that come under observation are green stick fractures and this fact predisposes to deformity. If, then, assuming for the purpose of argument that a plaster of paris cast is the best appliance that can be used for the treatment of these cases, we will reinforce the cast at its middle, over the site of the fracture, reinforcing it so that at this point it has twice the thickness it has at any other point, and as the cast hardens we extend the forearm on a flat table and press the back of the hand and the elbow down so that they come in firm contact with the surface of the table, we can produce sufficient over-correction by extension to equalize the loss that will occur in the circumference of the arm due to its shrinkage, as the swelling incident to the fracture gradually disappears.

I would not be misunderstood to say that the application of a plaster cast is the only way to treat these fractures, because this is not either my experience or belief. In the great majority of cases, however, if one is familiar with the tricks that are incident to the use of plaster of paris, in ninety per cent of the cases it will be found to be the most efficient dressing.

It must be borne in mind that the vast majority of these fractures under discussion occur in children. Frequently where these cases have been intelligently treated the retentive dressings are taken off too early; the callus is much less firm for a

given time than would be the case of adults and definite bowing can and does occur as a result of the greater pull of the flexors and pronators.

Too little, if any, emphasis has been laid upon this important matter. We have all seen this result occur in oblique fractures occurring at the lower end of the radius; the so-called oblique Colles Fracture, and it has caused us many an anxious hour.

I would not have presumed to take up the time of the Society with a matter so elementary as this if I had not been impressed by the frequency with which this bowing occurs, even in the hands of men who are ordinarily skilled in the treatment of fractures in general. The hungry lawyer and the dead-beat who never pays his bills, are looking for these results to rob the surgeon of his hard-earned fees. They are not satisfied to call the thing square and be satisfied with the remittance of the fee, which in the case of the treatment of fractures is absurdly low at all times; and when damages are assessed by juries, they are out of all proportion to the fees that would have been collected by even the most skilled and well known surgeons in most of our large cities.

I am presenting but one exhibit to illustrate what I have said. A mere look at the illustration will fix the thought to be conveyed absolutely in your mind.

I know that I am taking issue with all the textbooks that I have been able to examine when I urge and recommend the use of the supine position as opposed to the thumb up and advocate the general use of plaster of paris in treating these cases, doubly reinforced at the point of fracture and over-corrected, that is, slightly bowed in the direction of extension to the thickness of the plaster of paris, over the site of the fracture. Plaster of paris should not be used in the treatment of these cases as a primary dressing. It will lead to disaster. For the first four or five days during which the swelling will reach its height, ordinary coaptation splints may be used, the point opposite the fracture being doubly padded to produce over-correction, and for this primary dressing it is not necessary in my experience to use a splint which extends beyond the elbow joint, but at the end of five days, when the swelling is absolutely under control and when it has usually begun to recede, to treat these cases with a splint or any form of apparatus which does not extend above the elbow joint up the arm to at least one-third of its length, is to be guilty of gross error and the result shown in the illustration is certain to occur. Many of these fractures occurring at the middle of the forearm are sub-periosteal fractures, rather than green stick fractures, and no displacement of the fractured ends occurs either laterally or antero-posteriorly. They are, therefore, comparatively easy to reduce. In many but little swelling in the forearm occurs and we are misled to believe that at the primary dressing a plaster of paris bandage extending above the elbow is the proper primary treatment. If this is used, it should be removed not later than two weeks after it is applied, notwithstanding the fact that an X-ray taken through the cast after it is applied shows an absolute alignment in both planes. On account of the pliability of the soft parts of the arm and forearm, just enough shrinkage will occur in the average child to permit of the bowstring contracture of the flexors and pronators.

The treatment of the compound fractures which occur at this point I will not discuss. They are to my mind among the most difficult in the entire field of the surgery of fractures. In the hands of experts the results attained are usually far from the ideal and excepting at the lower third of the leg they are more frequently accompanied by secondary osteomyelitis of the bones. I therefore would not confuse the subject in hand by more than alluding to the complications that may attend the compounding of fractures at this point.

DISCUSSION.

Dr. James P. Dean, Madison, Wis: Dr. Lemon's paper, I believe, is not only highly instructive but shows a keen appreciation on the part of the author of the problems to be met with in this type of fracture, also the methods of mastering them to obtain a perfect functional result.

In the treatment of the ulna, of course, we know the hand is the important member, the forearm being subsidiary in its movement to the movements of the hand, and we know that of the two bones the more important is the radius, that the movements of pronation and supination are controlled entirely by the radius in that it revolves around the ulna, the ulna being stationary. If the function of pronation or supination is even slightly interfered with, we know a serious result of disability occurs.

I was glad to hear the point brought out by Dr. Lemon that it is not a fact that the radius and ulna are at their widest point from each other midway between pronation and supination. I was also glad to hear the point brought out that these fractures should be treated or dressed in extreme supination.

We must correct and maintain the outward curvature of the radius, and in order to produce a functional result physiologically perfect an almost ideal immobilization must take place. The only ideal immobilization, of course, is the one that holds the fractured ends in perfect apposition without any possibility of displacement in the region of the fracture after the immobilizing apparatus is applied.

If we have such an ideal immobilization, of course, the callus formation is in perfect line with the axis of the shaft and a perfect functional result is obtained. (Applause.)

Dr. D. R. Connell, Beloit, Wis.: I would like to ask if that arm there in the X-ray would correct itself in time to a great extent.

Dr. C. B. King, Chicago, Ill.: There is one point that I want to accentuate. You members of the Illinois Society will agree that I have had a little experience with malpractice in the past six or seven years. I am glad that Dr. Lemon calls attention to the fact that the circular splint should not be used as a primary splint. We are running into those cases constantly. If you do put it on as a primary splint, you have to put it on so tight that you are going to get into trouble. (Applause.)

Dr. H. M. Francis, Woodstock, Ill.: This last paper brought to my mind by contrast the treatment of fractures that was brought to my notice very forcibly last spring. I did not observe it myself, but there were several doctors who did observe the treatment of fractures and who were just as dubious about it as I was and as you probably will be. Some of those, however, who observed it for weeks at a time got almost enthusiastic about it. It is so startling that I just present it here as something that we might think about.

The man who conducted this fracture clinic had some considerable reputation in Edinburgh for the treatment of fractures of the arm, including the collar-bone. His method was to use no splints whatever. I asked different men about this repeatedly, to find out if that was what they thought he meant, and they all, without exception, said that was what this man always stated in his clinics. One man who had visited those clinics for weeks and months told me he had only seen one splint applied to the upper extremity in all that time.

I was considerably startled. I have always used splints, and I presume will continue to use splints for some time to come, but the excellent results that this man got in his fractures and the reputation that he had in that community for excellent results ought to be considered. I might add that malpractice suits in that community were almost unknown.

Dr. John F. Herrick, Ottumwa, Ia.: In treating those fractures, the Doctor instructed not to use the plaster of paris splint at first. If it is not good at first, why use it at all? I have treated my cases by putting on a flat splint and keeping it on until it is well. In that way you get no bulging of the bones. You can always see the condition of the arm. If you put it up in plaster of paris, you can't see it and can't tell whether anything is going wrong. If you can see it every few days and find there is a little bulging, you can easily correct it, but if you shut it up in a plaster of paris splint and some accident happens, you are not aware of it.

Dr. Charles H. Lemon: In regard to what Dr. Connell asked, this arm, if left to itself, will not straighten itself out. It requires subsequent treatment in order to come out perfectly all right. If you keep in mind the principle of the bow, as I suggested, I think you will readily understand that it cannot be improved.

Dr. Herrick's remarks or criticisms suggest something I once heard an Irish professor of mine say. He said: "Lemon, I can give you things to be understood; I cannot give you the understanding." (Laughter and applause.)

The following provisions of the new law are of vital importance to the millions of former service men, and their relative and beneficiaries. Promulgation of this information by public spirited citizens will constitute an important and patriotic public service for the benefit of Ex-Soldiers, Sailors and Marines and their families in every community.

New and More Liberal Benefits
for Ex-Service Men
and Their Relatives and Beneficiaries
Effective December 24, 1919.

Under the new Amendment to the War Risk Insurance Act, which has been passed by Congress and which became a law on December 24, 1919, when it was signed by the President, war term insurance or United States Government life (converted) insurance policies may be made payable to any of the following list of beneficiaries:

Parents, grandparents, stepparents, parent through adoption, wife or husband, child, grandchild, stepchild, adopted child, brother, sister, half-brother, half-sister, brother through adoption, sister through adoption, stepbrother, stepsister, uncle, aunt, nephew, niece, brother-in-law, sister-in-law, a person who has stood in the relation of a parent to the insured for a period of one year or more prior to the insured's enlistment or induction, the children of such persons; parent, grandparent, stepparent or parent through adoption of the insured's wife or husband.

United States Government life (converted) insurance may now be paid at death in a lump sum or in installments for 36 months or more, at the option of the insured.

The rate of compensation for disability has been greatly increased. A comparison between the amounts formerly granted under the War Risk Insurance Act with those provided by the new law follows:

Temporary Total Disability.	W. R. I. Act.	As Amended
With neither wife nor child	$ 30	$ 80
With wife but no child	45	90
With wife and one child	55	95
With wife and two children	65	100
With wife and three or more children	75	100
With no wife but one child	40	90
With no wife but two children	50	95

With no wife but three children.....	60	100
*With no wife but four children.....	60	105
Extra allowance for dependent mother or dependent father or both.....each,	10	10

*Under the new law there is an allowance to a man temporarily totally disabled, and with no wife living, of $5 additional for each child (in excess of one) without limit as to number.

Total and Permanent Disability.	W. R I. Act.	As Amended
Under the War Risk Insurance Act the same scale applied for total and permant disability as for temporary total disability. A distinction is made between the two in the new law. Under the latter the compensation monthly for total and permanent disability is.....		$100
Note—(a) Under the new amendment if the disabled person is so helpless as to be in constant need of a nurse or attendant, an additional allowance is provided, in the discretion of the Director, not exceeding.....		$20
Under the W. R. I. Act the same provision was effective, except that a man receiving $100 per month (as outlined in (b) below) could not be given an additional allowance.		
**(b) Both under the W. R. I. Act and under the new law, compensation for the loss of *both feet or both hands* or the *sight of both eyes*, or for *becoming helpless and permanently* bedridden is.	$100	$100
In addition, the new law provides that compensation for the *loss of one foot and one hand*, or *one foot and the sight of one eye*, or *one hand and the sight of one eye*, shall be.....		$100
(c) The new law provides that for *double, total, permanent disability* the rate of compensation shall be.....		$200

**The new law provides that each of the impairments mentioned in (b) shall be deemed to be total, permanent disability.

Partial Disability.

The new law provides:

"If and while the disability is rated as *partial* and *temporary*, the monthly compensation shall be a percentage of the compensation that would be payable for * * * total and temporary disability, equal to the degree of the reduction in earning capacity resulting from the disability * * *."

"If and while the disability is rated as *partial* and *permanent*, the monthly compensation shall be a percentage of the compensation that would be payable for * * * total and permanent disability equal to the degree of the reduction in earning capacity resulting from the disability * * *."

Note—In no case is compensation payable for a reduction in earning capacity rated at less than 10 per cent.

THE RED CROSS SEAL.

The Red Cross Seal is dead.

Peace to its memory.

Its course is run; its task is finished.

Nobly it has borne the banner of hope and conquest.

Heroically it has led the fight of humanity against

"The Captain of the Men of Death."

And now when victory is assured it has quietly breathed its last

And gone to its well-earned reward.

But its cause is not dead.

The banner has been grasped by younger and more vigorous hands

And the great Tuberculosis Cause goes marching on to make

New conquests against the "Great White Plague."

Born in 1907, in Wilmington, Delaware;

Adopted by the American Red Cross in 1908;

Devoted to Tuberculosis work under the auspices of the

National Tuberculosis Association:

It has played a most important part in the growth of the

Great campaign against Tuberculosis.

Now, by agreement between the American Red Cross and the

National Tuberculosis Association, it will be seen no more.

In its stead will appear a new seal, its successor, the

Tuberculosis Seal, bearing, instead of the familiar Geneva Cross, the

Double-barred Red Cross, the recognized emblem of the

International Movement against Tuberculosis.

May the new standard bearer be endowed with the mantle of the old.

May the loyal supporters of the old seal rally around the new.

And may new friends arise so that under the new leader the cause may sweep forward, stronger and more irresistible than before.

The King is dead: Long live the King!

—Frank W. Le Clere.

THE WISCONSIN MEDICAL JOURNAL
OFFICIAL PUBLICATION OF THE STATE MEDICAL SOCIETY OF WISCONSIN

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Annual Subscription - - - Two Dollars Single Copies - - - Twenty-five Cents

Advertising Representative: Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago, Ill.

Address all business communications to THE WISCONSIN MEDICAL JOURNAL, 514 Wells Building, Milwaukee

Vol. XVIII. April, 1920 No. 11

EDITORIALS

A PHYSICIAN'S CREED.

WHENEVER and wherever my work, by day or night, in peace or war, on land or sea, in laboratory or office, home or hospital, classroom or open field, may I be patient, poised and thorough; loyal to science and to men, unselfish in labor and pure in life. May I hold that science is better than gold and men than greed, that service is proportionate to preparation, and reward to labor. May I use drugs only when indicated, diagnose before I treat or operate, clean before I deliver, use my laboratory, preserve a sense of proportion, respect but not worship my own opinion, seek consultation often, be slow to judgment and cautious in word and deed, and mingle in mind and touch with medical men. In the laboratory may I keep my records, in clinical cases my histories, and between them and me preserve the accuracy of truth. May I be strong with the weak, righteous with the wicked, wise with the foolish, honest with myself and kind to all men. May I avoid professional comparisons and sensitiveness, speak well of those of the household of medical faith, shun jealousy and eschew envy, follow progress, beware lest the demands of life chill my enthusiasm for study and knowledge, play sometimes and wander when I may. May I take injustice gracefully, disappointment easily, fight disease cheerfully, death hopefully, believe victory and defeat equally a part of the larger plan, and rise from both fresh for repeated conflicts. May I remember that I am an heir to the same diseases as my patients, must meet the same death, pass with them beyond the River, and may I go with a smile.—Stewart Roberts, M. D.

THE MAY JOURNAL.

THE Journal has in the past been printed and mailed the latter part of the month. Labor troubles and a congestion of work at this time has seriously interfered now and then with mailing on the usual date and the February number could not be mailed until March first. To conform more closely with the publication of other State Journals and to avoid a particularly busy time with our publishers, it has been decided to publish and mail it in the future during the first week of the month. The May issue will therefore follow the April number in a very few days and for obvious reasons will be limited to original articles.

HEALTH INSURANCE.

HEALTH insurance is a subject which at this time calls for careful study by cool heads. Whatever our opinion of it may be, it is presented by sincere students of sociology as a measure in the interests of humanity. Unreasonable opposition and a campaign of personal abuse of those advocating health insurance will work untold harm to the profession. The following editorial from "Modern Medicine" is reprinted at the request of our committee elected to study the subject.

"The medical profession has always held high ideals of scientific leadership. In professional associations the most careful scrutiny of candidates has been exercised before election to the scientific offices of the associations. The records of all medical societies are remarkably good in this respect. The ideals of the profession of medicine have been universally upheld.

"In these days of delicate relationships in all social affairs one would expect to find the same high type of leadership guiding the medical profession in helping to solve the difficult problems confronting the profession, particularly in its relations to the public. Anything less is a menace to the profession and to the public. The professional ideals of the physicians should pervade the whole activities of the profession of medicine. There is no place for the demagogue or the swashbuckler.

"But there is evidence of present danger in this respect. An example has prompted this editorial. In the city of Brooklyn, N. Y., the medical society has apparently abdicated its leadership in public matters and placed it in the hands of the so-called Professional Guild composed of doctors, dentists, and druggists. This Guild is promoted for the purpose of fighting health insurance and its work is carried on by an apparently irresponsible public health committee. The voice of this committee and of its chairman becomes the voice of the physician, and the profession must bear the stigma which may be brought to it by the self-appointed leadership which the Guild produces and over which the profession has no control.

"This committee and its chairman have already justified the fears of demagogy and swashbuckling leadership. It has spread broadcast most vicious tirades against the promoters of health insurance. No words are too strong in the vocabulary of the chairman to describe what he considers the viciousness of the men and women who are supporting this measure. To quote from a pamphlet of this committee:

" 'Behind this Bill is an organization called the American Association for Labor Legislation, "Made in Germany" as part of the "infamous Kultur" and imported to this country by a Russian disciple of Bolshevism and "I-won't-work-ism"; its board of officers contains the names of hysterical men and women and vicious men and women who have no knowledge of or sympathy with the needs of working people and who believe that the working man does not know what is good for him and "they do", and they are willing to take lucrative positions under the Davenport-Donahue Bill to do him good and to "DO HIM—good"; these people are paid professional philanthropists, and busybody social workers, proteges of the foundations; misguided clergymen; editors, and officials and financial backers of such "parlor Bolshevik" papers as *The Survey* and the *New Republic* and such inflammatory papers as *The Crisis* and the *Messenger,* which tend to encourage unrest and race rioting among negroes; supporters, defenders, associates of the forces of unrest known as the I. W. W. and Bolshevists; the disciples of Lenine and Trotzky, whose gospel is the destruction of those things worth while for which men and women have given their lives.'

"Such a statement could hardly come from any but an unbalanced personality. It was made of men and women who are known individually and collectively all over the country as able, patriotic, and sincere Americans. In the whole list of officers and advisory council of the American Association for Labor Legislation, numbering a hundred persons, there is not a single radical of any description. Many of the most eminent employers, labor leaders, physicians, educators, and public men and women are on the list of those who are denounced by this ignorant, indiscreet tirade of the so-called Professional Guild.

"Among the great organizations which have declared for health insurance are the New York State Federation of Labor, twenty state and twenty national organizations of labor, the New York League of Women Voters, the national and state consumers' leagues, seven official state commissions, the National Catholic War Council, the Jewish Conference of Social Work, and scores of other organizations. To characterize a measure supported by all of these organizations in the terms used throughout the propaganda of the Professional Guild of Kings County is the silliest twaddle. The individuals who sign such stuff should not be allowed to degrade the whole medical profession.

"MODERN MEDICINE stands for medical leadership in health insurance. We believe that it is not primarily the duty of the profession to promote or to oppose its coming, but rather to analyze the problems of sickness and the relation

of health insurance to them, and to guide the formulation of legislation so that the function of medicine may be fully recognized and the work of the physician safeguarded for the public benefit as well as that of the profession. The burning intolerance of those who have usurped authority in medical circles in Brooklyn is destructive of this ideal and will react disastrously upon the profession."—*Modern Medicine.*

DO MOVIES HURT THE EYES?

THE fact that millions of people go to motion picture shows throughout the United States daily without experiencing any discomfort to their eyes, or that such eye trouble that is found is not traceable to "over indulgence" in the movies, would seem to indicate that motion pictures are not injurious to the vision.

It is true, of course, that some people do experience a certain amount of eye strain at a motion picture, but in these cases the trouble appears to be due to an ocular defect rather than to the motion picture. Such persons should therefore have the eyes examined by a competent oculist for it is quite certain that the same person would find even more discomfort in the same period of concentrated reading.

In this connection it may be pointed out that employes of motion picture playhouses, who spend a large part of the day looking at the pictures, do not seem to be troubled with their eyes any more than the average individual. This is largely a personal observation since no extensive investigations have been made of the eyes of motion picture theatre employes.

It is safe to say a person may witness a picture play lasting about an hour and a half each day without straining the eyes or experiencing any discomfort, provided the eyes are good and there are no hidden defects to the vision. Indeed it is not unlikely that a motion picture show might be the means of advising one of a faulty vision.

In case of eye trouble coming on after concentrating the eyes on the printed pages of a book for a long period one does not blame the book, but thinks at once of the eyes and the probable need of glasses.

Eye discomfort in the movies should therefore be regarded as a danger signal and should lead the sufferer to the doctor's office for an examination.

AS OTHERS SEE US.

EDITORIALS FROM THE LAY PRESS OF WISCONSIN.

DOCTOR'S ADVERTISEMENTS.

HEREAFTER the Tribune will not run or publish advertising of traveling practitioners. There may be many doctors and medical men who come to this and other cities who are good professional men. They may render a good service to the people of our community. There are some, however, who may not be bona fide and licensed practitioners and who are not entitled to the right to practice among the people of this city and this county.

It is not the policy of the Tribune to discriminate against any practitioners. They may be qualified to give advice. However, the Tribune is anxious to protect all people of this community from any possibility of quacks practicing here and seeking patients here and by denying the advertising columns to all travelling practitioners we will thus prevent any such possibility. This office has not the time to investigate the qualifications, nor is it in any position to judge whether a practitioner is worthy or not. Instead of investigating we shall close our columns to that type of advertising.

Advertising accepted and published in the Tribune is accepted as being all right. It is beyond our power to guarantee the integrity of strangers who come here and we will not accept that responsibility. This rule will be regarded strictly.—*The Grand Rapids Tribune.*

OUR DOCTORS.

DO any of us ever stop and think, during the days of sickness and care what our doctors of River Falls are doing? Do we ever think of the miles and miles they drive every day, over these dreadful roads?

They will enter your home day or night with a pleasant greeting, ready to encourage the sick and sympathize with those who perhaps have to stay up a few nights in a comfortable home waiting on their dear ones.

When we are well again, we pay him, we say, and he is forgotten until we have a pain again.

Did you ever stop to think of the many cases of flu, alone, we have had—and—how few have proved fatal?

The same was true last year, we had comparatively few deaths.

Do we get the epidemic in a lighter form in River Falls? Perhaps. But let us give the doctors some credit for the efforts they have put forth.

Even in the cities, people have not the service we do. One example, a young man was taken sick Saturday evening, no medical aid could be had until on Monday morning. The young man died of pneumonia.

In our smaller towns, some of the doctors will not make night calls and absolutely refuse to go in the country. Can you estimate what this may mean to us?

You say that is their business and you pay them, but the question comes up, are there not some things in this life that money cannot touch? If you were ever sick or in trouble, and someone gave a helping hand, did you feel that you could pay them?

Let us show our appreciation—one good and lasting effort would be to join hands and build a comfortable hospital, thereby making less, but more efficient work for our doctors and nurses and giving our sick folks a better chance for recovery.—*The River Falls Times.*

THE COUNTRY DOCTOR.

THE Literary Digest in an article on the scarcity of country doctors tells the usual story of the lure of the city and then offers the following counter-suggestion: "There are a good many city doctors, especially those getting along in years, who feel as though they would like to slow down a little, and who have always sighed for the pleasures of country life. To such men the Garden of Eden is a cottage in the country. Why shouldn't such men move into some of these beautiful country villages, which nowaday have most of the comforts of city life and many advantages which the city does not possess? In such a place a home can be bought for a song, with peace and quiet, a garden-spot, fresh fruit and beautiful scenery, and an increasing number of people of large ideas, poetic and literary instincts—and little money!" The writer of the above article would probably change his mind after one winter in the country such as the past one has been. It takes a strong man to combat the snowdrifts in all kinds of wind and weather year after year. Midnight calls in below zero weather and drifted roads are the usual thing during the winter months, for that is when people get sick. The country is no place for elderly doctors who want to let down and take life easy. There is no letting down in the country. We need more doctors and we need them badly, but we want men with courage and vigor who haven't any notion of taking life easy. Vine-clad cottages and gardens of Eden are not overly abundant at the present time, neither do they sell for a song.—*The Hartland News.*

THE JOURNAL CLINIC

Edited by
L. M WARFIELD, Marquette University
and
J. S. EVANS, University of Wisconsin
(Address all communications direct to the editors)

CLINIC OF THE UNIVERSITY OF WISCONSIN

G. H. ROBBINS, M. D.

CASE 1. A male, age 35, a student, who came into the office complaining of a feeling of fullness and distress after meals, associated with eructation of gas, alternating attacks of diarrhea and constipation, and also general malaise, and loss of weight. The condition started about seven years previously with attacks of burning pain in the epigastrium, relieved by food taking, alkali taking, and occasionally by vomiting, and persisting for about one-half to one hour, when it would disappear, only to reappear after the next meal. These symptoms would last about a month at a time and would alternate with periods of freedom from all gastric distress up to about four months before he was first seen, when the clinical picture changed entirely, and the patient began to complain of a rather severe feeling of fullness and distress immediately after meals, and especially after large meals, together with the eructation of considerable gas. This condition was progressive in severity, and soon became associated with alternating attacks of diarrhea and constipation, and with rather marked frontal headaches, general nervousness and irritability, and some loss of weight. His past history revealed nothing of importance aside from rather protracted and severe headaches, and nasal infections which necessitated the use of some surgery on his nose, and repeated slight attacks of subacute appendicitis. His family and venereal history were negative.

Examination revealed a rather congested nose with a blocking off of the left side by post-operative adhesions extending from the middle turbinate to the septum. The heart and lungs were normal, while the abdomen showed an area of indefinite tenderness to the left of the midline midway between the ensiform and the umbilicus. The tenderness was not marked and there was no evidence of any mass in this region. Over the appendix slight but definite tenderness could be elicited, and this finding was constant upon several examinations. A gastro-intestinal X-ray examination brought out a rather constant irregularity in the duodenal contour of a fixed type associated with practically

all of the other signs of a pyloric or duodenal ulcer.

A gastric analysis, done with a Rehfuss tube, by the fractional method, showed an absence of free hydrochloric acid, a low total acidity, together with the presence of yeast cells, but no Boas-Oppler bacilli or lactic acid in three separate examinations at about 3 or 4 day intervals.

A diagnosis of chronic gastritis of the atrophic type was made, but because of the age of the patient, the comparatively recent onset, and the undoubted presence of a focus of infection in the appendix which needed care, surgery was advised so that an early carcinoma might be resected, if found.

The patient was operated about one week later and the following are the findings:

Stomach normal—no sign of ulcer or carcinoma.

An adhesive band extending from the gall bladder to the pylorus, kinking the duodenum over it.

A chronically inflamed appendix bound down by adhesions.

The band at the pylorus was severed and the appendix removed and the patient went on to recovery. Subsequently the patient had the adhesions broken down in his nose and at present, about eight months after operation, he has no gastric distress of any type, and he has gained about 10 pounds in weight, while the free hydrochloric acid in his stomach averages about 30 degrees and the total acidity averages 50 degrees.

Case II. A male patient, age 63, a machinist by occupation, with the complaint of a marked feeling of fullness and distress after meals associated with very definite pain of a severe type which would appear as soon as any food was taken by mouth, together with marked weakness and loss of weight. He stated that he had been having stomach trouble for 15 or 20 years and up to about six months before he was first seen this trouble occurred as attacks of burning pain in the epigastrium, appearing about two hours after each meal, lasting at first one-half to two hours after the meal and later, as the condition progressed, lasting up to the next meal, but always being relieved by food taking or by alkali taking. These symptoms appeared in attacks of two or three months' duration, alternating with periods of freedom from all symptoms until about six months before he came into the office, when all of the burning pain disappeared and became replaced by a very disagreeable feeling of distress and fullness and gas formation starting as soon as he had eaten but becoming more marked at the height of digestion. As this condition progressed it soon became associated with a rather marked loss of weight (15 to 20 pounds) and extreme weakness. At two or three different times he vomited material which he said was black and had the appearance of old coffee grounds, and once or twice he noticed that his stools were blacker than normally.

To examination he revealed no marked changes in the head or neck. Examination of the chest showed the lungs normal but the heart rather enlarged in size and the rate quite rapid, about 85 per minute. The abdomen showed a very definite area of tenderness just below the ensiform, with rigidity of the muscles over this area. There was no evidence of a palpable tumor mass. The liver was somewhat enlarged and slightly irregular to palpation. Otherwise he showed no deviation from the normal. A gastro-intestinal X-ray examination revealed a stomach which was larger than normal, atonic in type, with delayed emptying, and a very definite filling defect at the pylorus. Examination of vomitus (no definite test meal was given because of the thought that it would be unwise to pass a stomach tube) revealed an entire absence of free acid with a very low total acidity, together with the presence of a few Boas-Oppler bacilli, and a trace of lactic acid. Repeated examinations of the stools showed large amounts of occult blood; so large, in fact, that it was necessary to dilute the stools with water to get a typical test.

The patient was operated because of the comparative recency of the change in symptoms and the absence of any definite palpable tumor mass (and hence the feeling that there would be a possible chance of resecting a carcinoma if one were found). But the carcinoma which was found at the pylorus was seen to have already invaded the pancreas, the gall bladder, the liver, and the mesentery glands, and hence no operative measures would be of avail.

Discussion: The interesting point in these two cases is that the first one, with all of the symptoms of hyperchlorhydria, changing later to those of low acidity with fermentation, revealed as an end result a benign achylia of a chronic atrophic gastritis dependent probably upon a primary focus of infection in the appendix or in the head sinuses, which cleared up entirely even to the return of normal acidity by proper operative measures; while the second case, although the symptoms were practically the same, except that there was more loss of weight and weakness, turned out to be one of a fulminating and highly malignant gastric carcinoma. Probably the only point of differentiation between the two conditions was the presence of blood in the gastric contents and in the stools of the second case since all the other symptoms exactly paralleled those in the first.

CLINIC OF

F. GREGORY CONNELL, M. D.,
OSHKOSH, WIS.

B. A. No. 1801:

Male, age 21, white, single, farmer. Was referred by Dr. C. H. Nims. 1-27-20.

Chief complaint: Pain localized in the right lumbar region at about an inch below the costo vertebral angle, definitely localized and does not shoot up, down or around. This pain is described as a burning and boring sensation, never a severe colicy pain, practically constant, made worse by exertion, labor or especially upward movements

of the arms, such as pitching hay or reaching to an elevated shelf. It is relieved by recumbency and at night never keeps him awake though it bothers him before he goes to sleep and is present again on waking.

The onset was two years ago not definitely remembered, but has gradually increased in severity ever since.

Periods of freedom have never been of more than a few days duration. During the last months has been practically constant.

The patient complains of occasional headaches, sore throat and cough occasionally, appetite and digestion good, occasionally bothered with a little gas on stomach. No loss of weight, bowels and urine normal. Otherwise patient feels well.

Previous History:

Fell on barn floor 3 or 4 years ago, was lame generally for a few days. Was not confined to bed. "Catches cold" frequently. Had "Flu" twice last winter, 1919. Whooping cough, measles, and chicken pox when a child.

Tobacco, alcohol not used, habits good and venereal disease denied.

Family History:

Negative except that his mother has had a gall bladder operation.

Physical Examination:

Reveals a well-developed young man in apparent good physical condition.

Skin and hair fair—dermography marked. Hands cyanotic, cold and moist.

Pulse 80 B. P. S. 130 D. 90. Respiration and temperature normal.

Pupils extremely dilated, reaction normal.

Palative arch high and narrow. Teeth in good condition.

Thyroid normal.

Pharyngeal reflex markedly diminished, wall congested.

Tonsils enlarged, congested with cheesy material in crypts.

Smear shows: Polar staining bacillus.

Axillary and inguinal glands not enlarged.

Chest: Lung and heart negative.

Abdomen: Negative.

Epigastric triangle broad, no rigidity, tenderness or spasm on either side of abdomen. Liver normal. Spleen and kidneys not palpable.

Back:

Spinal column shows no deformity, no tender spots, no anaesthetic areas. Pain and hypersensitiveness in the region of the right costo vertebral angle.

Hammer or fist percussion registers marked tenderness on the right side as compared with the left.

Gentialia: Negative.

Rectal examination: Negative.

Knee jerks exaggerated.

Summary: From the history.

A diagnosis calls for a differentiation between disease of the right kidney: of a retrocecal and adherent appendix and colitis. The tonsils seem to call for removal.

Urine shows: 24 hour specimen 35 oz. and 16 oz. and acid reaction 1006-1024 with a trace of albumen.

Cystoscopic examination shows bladder normal, ureteral orifices normal and catheters inserted without obstruction. Urine from both kidneys equal and normal.

Tbc. Negative.

Red test within normal limits.

Blood: 1-27-20 w.b.c. 18,600: 1-28-20 w.b.c. 32,600: No. cells counted 200: polys. 89 s.l. 7: trans. 3: eosin. 1. Feb. 4-1920 r.b.c. 14,400: Hemo. 100%: color index .9 plus: r.b.c. 5,140,000: 200 cells counted: Poly. 78: S.L. 11: Trans. 8: Eosin. 3.

Temperature did not rise above normal.

B. A. No. 1802:

Stomach contents: Aspirated showed retention, high acid. Ewald meal test: total acid. 82: Free hcl. 46: comb. Hcl. 36 mucus. The acidity varied greatly from day to day, but was always high.

Stool examination showed: amoeba, and trichomonas: blood cells: meat fiber and alkaline reaction.

Barium Meal examination showed: On January 28th, 1920, "Gastro intestinal tract: Fluoroscopic examination shows the chest apparently normal. The heart is a trifle enlarged to the right. The barium passes normally into the stomach which is fairly well supported. Some caput formation is noted in the upright position. In the reclining position, the stomach is large and apparently normal. The only abnormality noted is the apparently intimate attachment of the hepatic flexure with the duodenum. At 5 hours the barium is in the normal locality in the terminal ilium and cecum. The cecum is not very freely movable in the area of the appendix but no tenderness is noted. The

8 hour examination after the first meal and three hours after the second shows no evidence of filling the appendix. The cecum seems to be fairly immobile in the right iliac fossa. The 24 hours examination shows the barium in practically normal relation in a normal colon. The hepatic flexure is rather high and rather fixed. Tenderness over the appendix is entirely absent. Tenderness is located more over the hepatic flexure. The X-ray would yield nothing except the comparative fixation of the organs in the right abdomen." Feb. 6, 1920. "Stomach: Second examination. 5 hours after the barium meal shows a small stomach residue. On giving the second meal, there is no definite caput formation and there is an apparently close relation between the duodenum and the hepatic flexure and this seems to be the point of tenderness."

Summary: From laboratory data: Urine shows an occasional cast. Blood leucocytosis without other usual symptoms of infection. Gastric contents: excessive acid, blood, retention and pyloriespasm. Stool shows amoeba and trichomonas. X-ray failed to reveal calculi in G. U. tract or vertebra and two series of X-ray examinations of the stomach and intestines failed to reveal definite pathology.

From the above a diagnosis of colitis was suggested and treatment consisting of rest in bed and emetin started, but as there was not a marked symptomatic improvement after consultation with the family it was decided to perform an exploratory laparotomy so as to exclude the possibility of a retrocecal appendix, which had been very strongly impressed upon the mind of the patient and relatives, the understandings being that this was a frank exploratory and that the medical treatment would be continued after the operation regardless of the operative findings.

Accordingly on Feb. 9, 1920, under ether anaesthesia an exploratory laparotomy by a right rectus incision revealed the omentum adherent to the parietal peritoneum of the right and left iliac fossa, not to the viscera. This omentum was separated and ligated. The sigmoid was free from adhesions, no free fluid in peritoneal cavity. The ileocecal junction was free from adhesions and freely movable with some glands in the mesentery of the ileocecal the size of bean to pea. The appendix was adherent to the pelvic penistal peritoneum with a firm tie at the junction of the middle and distal thirds. The distal end was clubbed with some congestion of the serosa. There were no adhesions of the ileocecum. The appendix was removed. The ascending colon was covered by a very definite pericolic membrane. There was no pericecal membrane. The right kidney was normal to touch, in size and consistency, not abnormally mobile. The gall bladder was normal to touch and size and color. No adhesions. With finger in foramen of Winslow found the common duct normal and pancreas normal to touch. Very carefully examining the stomach beginning at the fundus, cardia to pylorus failed to reveal any induration. No glands in the omenta. Pylorus was normal. During the exploration a wave of muscular contraction from left to right was visible. Duodenum was normal. There was a small adhesion of omentum extending from the transverse colon to the parietal peritoneum at the Hepatic flexure so small and frail, ½″ in diameter, that it could hardly account for the symptoms. The Hepatic flexure was normal, the origin of the jejunum was normal with no enlarged glands at the origin of the mesentery.

Warm stage examination of the contents of the appendix showed no moving amoeba. Some cells that may or may not have been the encysted form of amoeba.

Section of the appendix showed a slightly thickened wall but no evidence of gross pathology in the mucosa.

Histologically there is no evidence of pathology except a thickening of the submucous layer.

After a careful review of the evidence in this case there is still a lack of positiveness relative to the diagnosis. There are many possibilities such as erosis of the mucosa of the stomach, latent kidney disease, vertebral or spinal disease, but one thing that is definitely found is parasites and amoeboe and flagellates within the intestinal canal, and some abdominal adhesion between omentum and parietal peritoneum of the anterior abdominal wall. The latter are difficult to satisfactorily explain and there seems but little reason to suppose a relationship between these two findings.

The parasites mentioned are, by many observers, looked upon as perfectly innocuous while there is a growing belief that these organisms are not entirely without pathologic importance.

For a number of years we have been in the habit of searching for parasites in the warm stool of patients complaining of various chronic abdominal complaints and have found either amoeba, tri-

chomonads, or both in large proportions of such cases.

The question of the relative importance of these is nowhere near settled, but until they are proven to be innocuous they may advisedly be considered in the diagnosis and prognosis of such cases.

Dr. Stovall of the state board of Health Laboratory at Madison has been directing attention of the readers of the Journal to the importance of this phase of the subject.

This case is too early, of course, to be of much value as a lesson but the remote or subsequent history and result will be of great value.

If this brief history will aid in emphasizing the difficulty in properly accounting for abdominal pain, it will have served a purpose.

The tonsils will be removed under local anaesthesia before the patient is discharged.

F. W. No. 575.

Age 31. Occupation, housework.

Presented herself at office complaining of pain in back, low down both sides, occipital headaches and pain in right side of abdomen with occasional pain in left lower abdomen. These pains are constant, with slight improvement on recumbency and have been with her ever since her baby was born 14 months ago.

She likewise complains of dyspnoea and palpitation upon exertion.

Appetite is good: digestive symptoms not marked except for occasional distress at different intervals after eating, regardless of the quantity or quality of the food.

Bowels are constipated with no diarrhea. Patient has had "piles" but these are improving.

There has been slight loss of weight.

Three children, with labor and puerperium normal in first, after second child six years ago a curettage was performed. The baby, 14 months old, is still being nursed.

Exam. D. 80, tempt. 98, B.P.S. 140 D. 90.

Dermography marked.

Teeth are very bad: pyorrhea.

Tonsils enlarged.

Pharyngeal reflex absent.

Thyroid gland is palpable, which has not increased in size since the birth of nine years ago.

Tremor no: exophthalmus no.

Breast lactating.

Abdomen: marked diastasis of recti muscles. Abdominal viscera palpable through the abdominal wall. General enteroptosis. Right kidney movable to second degree. Tenderness and fullness and gurgling in right iliac fossa. Cecum palpable. Dynamic aorta.

Vaginal: tear of perineum and cervix, cystocele and rectocele moderate with tenderness in right broad ligament on bimanual palpation.

Rectal negative.

Back, tenderness in both lumbar regions.

Extremities: Reflexes exaggerated, tremor absent.

Urine: 1030, acid, 1% sugar (lactation).

Blood: 84% hemoglobin. w.b.c. 14,200: (lactation) r.b.c. 4,000,000: poly. 79: s.l. 15: trans. 5, eosin. 1.

Advised weaning of baby and extraction of teeth and to report in a month.

11-29-19. Very marked improvement.

1-23-20. Severe pain in right iliac fossa, has not put her to bed, but can not work as pain makes her weak and she can not sleep. Appetite is good, nausea and vomiting absent. Bowels are constipated. Urination frequent with pain after the act, especially at night.

Exam. about the same as at the first, practically same as on 9-29-19.

1-30-20. No improvement. Pain and tenderness in right iliac fossa.

Urine alkaline, 1010: Sugar, no.

Blood 100%.

Patient was advised to enter the hospital for observation.

2-4-20. Warm stool examination showed: color brown black: consistency soft: visable blood: neg.: occult blood present: reaction neutral: undigested food, small amount: Bacteria present: other findings: amoeba and trichomonas.

Test meal examination showed: hydrochloric acid was diminished in three examinations.

X-ray of Barium meal on Feb. 10, Gastro intestinal tract. Five hour examination shows some stomach residue with somewhat irregular outline, the residue being in a fundus. On giving second meal the stomach is of a rather large size and considerable activity with free passage. The caput and duodenum is apparently normal in size. There is some irregularity in the area before the antrum. Plates are taken. The 24 hour examination shows the barium all in the colon, which is apparently normal in outline. There is a small amount of localized tenderness over the appendix which does not fill with barium.

Urine on Feb. 4, 1920, shows sp. gr. 1010: acid reaction, albumin and sugar negative. Pus cells, few and epithelium present.

On Feb. 5, catheterized specimen shows acid reaction, albumin, sugar negative: epithelium round and red blood cells.

Cystoscopic examination showed the trigone congested, both ureteral orifices normal in size and shape and position. Catheters introduced without obstruction. Urine drips from both sides normal rate and equally. Red test showed color return in 10 minutes and 50% in first hour, 20% in second.

The proctoscopic examination failed to reveal any ulceration, the rectal and sibmoid mucous membrane is hypertrophied and pale in color.

Large doses of Emetin and Alcresta Epecac and Calomel were given for two weeks with great symptomatic improvement of the patient.

February 20th: General nervousness, and tachycardia led to a discontinuation of the drugs, which was followed by a relief of these symptoms and the marked improvement has continued.

March 1st: Patient has gained in weight, 8 lbs., looks like a different individual, has no pains or aches: appetite and digestion good. Bowels free from omoeba or trichomonas and was about to leave the hospital as a markedly improved case. At this time the following comments were noted. *Remarks*:

The question as to the pathogenicity of the amoeboid and Flagellate parasites of the intestine is far from settled: but there seems to be a gradually increasing sentiment in favor of attributing to them powers of producing symptoms.

The amoeba Histolctica is recognized as pathogenic, the amoeba coli is supposed to be benign: but it is sometimes quite difficult to differentiate between these two types of endomoeba.

The flagellates are supposed to be inocuous and they are undoubtedly found in some cases of normal symptomless people, but on the other hand they are many times found with a certain group of symptoms that may be called Chronic Abdominal Complaints and, heretofore, have been many times subjected to operation under the diagnosis of chronic appendicitis.

From the above case no conclusions may be drawn, but it would seem that one might be warranted in drawing attention to the fact that the immediate result is quite as satisfactory as if there had been an operation for the relief of pain in the right iliac fossa.

It may not be permanent in this case, but in all probability as permanent as after removal of the appendix.

On March 4, after being up and around for about a week the patient complained of a return of the pain in the back, both sides, bearing down sensation and acute pain and tenderness in both the epigastrium and the right iliac fossa.

Pressure in the left side caused pain in the right iliac fossa.

Hypersensitiveness and muscle spasm of right rectus muscle.

Bowels moved normally with no parasites and no excess of mucous.

Urine was normal with no demonstrable change in characteristics of the palpable kidney.

Blood showed a leucopenia with a lymphocytosis.

Hydrochloric acid was increased with no retention of gastric contents.

The return of symptoms led the relatives and patient to urge an operation and removal of the appendix.

This was acquiesced to after explaining to the husband the probability of finding nothing to account for the symptoms and therefore but temporary improvement following the operation.

Preoperative diagnosis: Exploratory Laparotomy.

Made a mid-line supra pubic incision. Found the uterus anteverted. Two hydatist Morgaqui removed from the right tube. Both tubes normal, both ovaries normal size. Uterus twice its normal size and oedematous.

Found marked enteroptosis, kidney movable to second degree, gall bladder free from adhesions, contained no calculi.

Stomach contains no palpable ulcer.

Pylorus, duodenum and pancreas are normal to touch. The enteroptosis is extreme, the transverse colon extending three inches beyond the symphysis pubis. The omentum is free from adhesions, contains no glands. The ileum is free from kinks. The cecum is thickened and leathery, there is a definite pericolic membrane. There are no glands in the mesenteriolum. The proximal half of the appendix is covered with gossamer like adhesions, the distal half is free. The appendix is not ab-

normal to the naked eye with the exception of the tip which is white and sclerotic.

Performed a prophylactic appendectomy and the warm stage examination of contents failed to reveal any fiber parasites. The uterus being in anteversion did not touch it. In closing the abdomen the sheath of the recti muscles was opened and muscles and sheath sutured together correcting a marked diastasis.

P. O. Diag. Enteroptosis.

The patient made a very satisfactory post operative recovery and her actions and appearance and attitude became completely changed immediately after the usual post operative distress had passed away.

The third post operative day saw the patient cheerful, smiling and, as she expressed it, "feeling fine," a result greatly out of proportion to the changes resulting from the operation.

The subsequent history will be followed with much interest.

B. S. No. 616:

Feb. 15, 1920. Widow. Hotel keeper. Referred by Dr. Canavan of Winneconne.

Present Complaint: Sudden onset of pain, colic demanding morphine on Feb. 11, 1920.

Ever since she has had pain, nausea and vomiting with vomited matter becoming malodorous and dark in color.

There has not been a satisfactory evacuation of the bowel since the onset of attack but there has been an escape of a small amount of gas from time to time with small amounts of fecal matter.

Previous History: March, 1911, Pan hysterectomy for an adeno carcinoma of the fundus of the uterus.

Jan, 1912. Recurrence in vault of vagina treated with actual cautery and followed by acetone locally for a year.

Since then no vaginal discharge and well until the present attack of acute pain.

Examination: Patient in very poor condition. Nervous, restless and apprehensive, crying for water with vomiting and regurgitation of dark fluid at frequent intervals. Belching gas. Pulse poor quality. B.P.S. 100. D. 80. Pulse 30. Respiration shallow and rapid. Eyes sunken. Tongue dry and coated and tremulous. Thorax negative, except for rapid heart action.

Abdomen distended tympanitic. General resistance and spasm, pain and tenderness and rigidity both sides below umbilicus. Gurgling on succussion, but no visible or audible peristalsis.

Vaginal examination negative.

Extremities negative.

Diag.: Intestinal obstruction due either to post operative adhesions or recurrent malignant disease.

Treatment suggested: Laparotomy for the purpose of establishing intestinal drainage by enterostomy.

Radical correction of pathology to be reserved for a second sitting.

Local anaesthesia would be indicated on general principles, but with the conditions in this particular case it was decided not to attempt a local anaesthesia, but to employ ether. The prognosis was given as primarily grave with the ultimate progress depending upon the etiological factor at the bottom of the trouble.

This advice was concurred in.

As a first step in treatment the stomach was washed out before administering the anaesthetic in order to prevent the possibility of regurgitation of stomach contents into the pharynx and aspiration into the lung which has been responsible for numerous deaths after general anaesthesia, in cases of ileus.

The stomach contents were typical fecal vomiting, the lavage was continued until the stomach was clear and empty.

Mid-line incision parallel with old supra pubic scar, revealed omentum adherent. Opened peritoneal cavity, delivered several loops of distended small bowel, distended to 3 inches in diameter. Found obstruction of small intestine adherent to pelvis, the exact nature of which was not determined (benign or malignant). Introduced Paul's tube into small bowel with the escape of four quarts of fecal matter and gas, by manipulation and stripping distended bowel. Drainage: One strip of gauze and one sheet of rubber tissue, Paul's tube and one tube in cul-de-sac. Attached enterostomy opening to parietal peritoneum and closed.

The post operative course was most surprisingly satisfactory. For the first 12 hours morphine was administered to the physiological effect, followed the next 4 hours by pituitrin and satisfactory passage of gas and small amount of fecal matter.

On the 3rd post operative day there was a profuse flow of intestinal contents and on the 4th day

rectal enema followed by passage via nature, of abundant fecal matter and gas, with the abdominal distention practically absent except for left lower abdomen. Pituitrin was again given, and the tube into cul-de-sac removed. Followed by satisfactory convalescence.

Summary: (a) Eight years freedom from recurrence after operation for recurrence of carcinoma of fundus, which is rather unusual even in the comparatively benign fundal carcinomata.

(b) The length of time followed onset of obstructive symptoms and the operation.

(c) The gastric lavage before operation for ileus.

(d) The two step operation palliative and life saving enterostomy to be followed if necessary by resection or enterorrhaphy.

(e) Opiates to prevent peristalsis until adhesions had walled off this enterostomy, followed by pituitrin and other exciters of peristalsis.

(f) The emptying of the loops of small bowel by manipulation and stripping of bowel between fingers. This has always been recognized as a shock producing maneuver, but in this instance it seemed the only way of emptying the bowel as otherwise the opening would drain only the individual loop into which the tube was inserted. And to have allowed this two quarts of toxic material to remain within the lumen of the bowel would have nullified the object of the operation.

(g) In the absence of any evidence of peritoneal carcinomatosis this obstruction must be looked upon as simply a mechanical obstruction due to adhesions following a pelvic operation 8 years ago.

(h) In these cases we aim to surround the opening in the bowel with omentum, but in this instance no omentum was available.

(i) In many such cases the sinus heals spontaneously, in not, radical secondary operation is to be carried out.

Baby C No. 610:

Age 10 days. Seen in consultation with Dr. T. D. Smith at Clark Hospital in Neenah on February 15, 1920.

History:

The birth of the child was normal and the baby made satisfactory progress despite a temperature of 101 F. which appeared on the 3rd day and on the 4th day was 104 F. and persisted irregularly after that time.

On the 4th day, note was made for the first time that the infant did not nurse properly and on the fifth that she cried more than usual.

This continued at intervals, but the bowels moved satisfactorily until the evening of the 9th day and during the 10th day the bowels could not be made to move and at noon vomiting began, which soon became bile colored.

At 2:00 P.M. Dr. Smith discovered a tender tense mass, dull on percussion, the size of a hickory nut in the right iliac fossa. The child grew worse very rapidly and as soon as transportation made it possible, I saw the child with Dr. Smith.

Examination revealed an infant 10 days old, face pinched, eyes sunken, senile appearance, panniculus poorly developed with skin dry, and knees flexed.

Abdomen distended with waves of peristalsis visible through the abdominal wall.

Mass size of an English walnut in the supra pubic region, fixed, tense, and tender. The baby had urinated before the examination with no change in the swelling. Rectal examination revealed mass in a cul-de-sac, no intussuscepies palpable and no blood in stool.

Temperature 103 F., pulse thin, thready, poor quality and very rapid.

Diagnosis:

(a) The most natural guess would, because of the age of the infant, be intussusception, despite the fact that the tumor was not sausage shaped and was situated in the lower abdomen, also despite the lack of bloody stool and notwithstanding the high temperature, it seems that the laws of chance were greatly in favor of such a diagnosis.

(b) A second choice was mechanical ileus, due to the incarceration of a loop of bowel beneath or within a developmental defect.

(c) Abscess due to appendicitis. In view of the fact that an acute inflammation of the appendix at such an age was unknown to either of us we took the long chance and called the condition intestinal obstruction, due most likely to intussusception, and advised abdominal incision to be followed by a reduction of the intussusception, but giving a very grave prognosis and promising nothing.

This suggestion was accepted by the father. Dr. Ozanne gave ether and Dr. Smith assisted in the operation.

Made a mid-line supra pubic incision. We were surprised to find the abdominal wall almost ½″

thick. There was very little hemorrhage, but marked oedema. We finally divided the parietal peritoneum which was followed by the escape of purulent fluid with flakes of lymph. No odor.

Introduced one cigarette drain in the cul-de-sac and another into the kidney pouch, with the escape of a large amount of pus.

Following the operation there was a profuse purulent drainage and for a day there seemed to be an improvement in the general condition, but the symptoms of peritonitis continued and the baby expired at 4 A.M. on February 17th, 29 hours after the operation.

This case is of interest chiefly because of the age of the patient and emphasizes the importance of realizing the fact that such pathology may occur in patients of such tender years.

This brings up the question of *always* removing the appendix in every case of appendiceal abscess. If this were an accepted rule, it would seem that such a case would be the exception.

PREVENTIVE MEDICINE

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THE STATE BOARD OF HEALTH PROGRAM.

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HISTORICAL.

The State Board of Health was created by the Wisconsin legislature March 31, 1876. The Board is composed of seven members, who are authorized under the law to select a Secretary and Executive Officer. The appropriation provided was $4,500 per annum for administrative work and $1,000 for printing. This was the annual appropriation until 1905. From its organization up to 1905 the activities of the Board were conducted by the Secretary and one stenographer.

Wisconsin was the tenth state committed to the cause of preventive medicine. Dr. E. L. Griffin, of Fond du Lac, was the first President of the Board and in his address showed unusual foresight as to the necessities for preventive medicine and the possibilities of public health activities, stating at that time as follows:

"As the sanitary care of its citizens is the first duty of the State, there should be established in our University, Colleges and Normal Schools, a professorship of Physiology and Practical Hygiene, and no pupil should be considered qualified to go forth and teach who is not only well instructed in the facts, principles and dictates of sanitary science, but had also a proper appreciation of their value."

Again quoting: "Let the public mind become enlightened as to the nature and causation of diseases and the means of their prevention, and let there be a corresponding thoughtfulness and care in the observance of preventive measures, and not only will the death rate throughout the State be materially lessened, but it will be demonstrated to every observing mind that sanitary and economic sciences are inseparable in a wise administration of civil government."

ORGANIZATION.

Appropriations for the Board since 1905 have been materially increased and its scope of activity has been considerably enlarged.

At the present time each municipality of the state has a local health organization and a health officer entrusted with the responsibility of public health problems in his particular locality. Of these there are 1,685. The State is divided into five health districts and to each district is assigned a full-time deputy health officer with ample power and authority to advance public health work.

In order to correlate, supervise and direct their local and district health units, and to carry on other duties delegated to the State Board of Health, fifty-seven people are employed. In addition to these there are special committees, composed of three members each. These committees sit as Boards of Examiners in the various lines of work.

The Health Department is organized into Bureaus and Divisions for carrying out the many phases of the work. Each Bureau or Division has, of course, its Director and sufficient personnel to carry out its work. The departments which are fully organized are as follows: Bureaus of Vital Statistics, Sanitary Engineering, Education, Plumbing and Domestic Engineering, Child Welfare and Public Health Nursing, Venereal Diseases, Laboratories, Hotel and Restaurant Division, Barber Division, Antitoxin Department, Department for Administering Pasteur's Treatment,

Department for the Supervision of Embalming, and a Beauty Parlor Division.

The Bureau of Vital Statistics annually records about 60,000 births, 28,000 deaths, 18,000 marriages and 1,200 divorces.

Under the Bureau of Laboratories is organized the State Laboratory of Hygiene, Madison; the State Branch Laboratory, Rhinelander, and the State Co-operative Laboratories, which are located in Superior, Wausau, Oshkosh and Kenosha, and one in process of establishment in Green Bay. The Co-operative Laboratories are operated by the cities and the State, the State contributing about $1,000 per year to each laboratory. They are under the supervision of the State Board of Health.

Provision is made for a Bureau of Communicable Diseases. This Bureau has not been fully organized because of a lack of funds to properly organize such a department.

Under the Venereal Disease Bureau there are established venereal disease clinics in the cities of Green Bay, Oshkosh, La Crosse, Superior, Wausau, Milwaukee, Kenosha, Janesville, Richland Center and Madison, with an employe of the State Board of Health as a social worker in conjunction with each venereal disease clinic, with the exception of the ones located in Richland Center and Wausau.

At the present time the venereal disease clinics are special clinics for the purpose of treating indigents who are afflicted with a venereal disease. However, they provide examinations for the purpose of a diagnosis for anyone who applies. Treatment will be administered only to those who are unable to employ a physician. The social workers are careful in investigating the financial standing of each patient at the clinic and if it is found that they are able to pay a reasonable sum or even part of a reasonable sum for their treatment, they are referred to their family physician for medical care. It is not the intent of the Board to furnish medical assistance free to those who are able to pay for it. Working upon this basis anyone who makes a careful study of the situation cannot fail to realize the great value of clinics of this character.

The success of public health activities depends a great deal in bringing the health problems close to the people, placing the plain facts before them and developing them in the various localities as problems of their own to be solved not only for the individual welfare, but for the welfare of the community and the State. This is the function of the Bureau of Education.

PROPOSED DEVELOPMENTS.

Although the activities of the Department have increased rapidly, still demands are made on the part of the citizenship which cannot be fully met. Hence there is an immediate demand for an enlargement of the activities of the various Bureaus and Divisions.

HEALTH UNITS.

The Board plans to develop the deputy state health officer program by the establishment of at least ten if not eleven districts in the State, each one having a resident full-time deputy state health officer. This will bring the health activities of the Board through these deputies in closer touch with the various local health organizations and for this purpose the next legislature will be asked for an additional appropriation to increase the number of deputies.

The Board is putting into effect the district plan rather than what has been known in some states as the county health officer program. Some eight states have passed laws during the past twenty years providing for a county health officer in each one of the counties of the State, but for one reason or another the county health officer plan has not proven efficient and the States primarily most enthusiastic over the proposition have abandoned entirely or partially at least the fulfillment of the requirement of the law. Its failure in part has been due first to the large element of expense necessary to carry the county program into effect and secondly the inability to get well-trained people to fill the positions.

The Board desires to encourage the union of small cities to establish health units. This will enable two or more small cities to unite in maintaining an efficient health department while they, acting independently, would be unable to do so. This plan also makes it possible for small cities to combine with a number of villages adjacent for the operation of a well-organized health department. The health problems in such communities, small cities and surrounding villages, are more acute because of the congestion or congregation of people into relatively small areas than is the case in the counties and communities which are strictly rural.

We now have full-time health officers in the cities of Milwaukee, Kenosha, Beloit, La Crosse, Wausau, Oshkosh and Superior. There are many other cities in the State needing full-time health

officers, properly compensated, and a larger development of their local health departments. It is, therefore, planned to have the legislature enact a law requiring each city in the State of 20,000 population or more to provide for a full-time health officer with sufficient assistants to properly carry on the work of an up-to-date health organization. The health activities of a municipality from a financial standpoint ought to rank at least parallel with the police and fire departments.

CHILD WELFARE AND PUBLIC HEALTH NURSING.

At the present time we have a Bureau of Child Welfare and Public Health Nursing under one head. Undoubtedly the demands made upon this Division will necessitate a division of this Bureau into two Bureaus—a Bureau of Child Welfare and a Bureau of Public Health Nursing. The last legislature enacted a law requiring that each county shall engage at least one public health nurse on or before July 1, 1921. At the time of the enactment of this law we did not fully appreciate the spirit of the various counties toward public health activities. There are now 26 county nurses and some 10 or 12 positions which cannot be filled. Some counties have made provision for two and three nurses. We believe that this is a big step in bringing the public health program close to the people. A good nurse properly trained in public health procedure can get closer to the people and accomplish more than any other individual.

There are nearly 200 trained women in the State doing public health work in the counties, cities, schools and various industries, and it is the intent of this Board to be able to supervise and direct the activities of these nurses. This will not only require a director in the central office but it will also require supervising nurses in the field.

The Board has already outlined the line of activities to be engaged in on the part of the county health nurse designating the type and character of blanks to be used and form of reports to be made.

The school, municipal and industrial nurses are not incorporated in the county public health nursing law but the requests made on the Department on the part of those nurses actively engaged in these various lines of activity show that they are desirous of central supervision and the Board fully appreciates the necessity of outlining such a program in order to bring about the fullest efficiency and uniformity of action.

GENERAL CLINICS.

The Board desires to encourage the larger municipalities of the State in the establishment of general clinics, which will offer free examinations and diagnoses to all and treatment to those who are unable to pay. It is doubtful if it is the function of the Board of Health to establish general clinics throughout the State. The Board, however, feels that it is proper to co-operate with municipalities by supervising clinics in order to make them uniform and efficient in giving aid to indigents in the way of treatment and to others by making examinations and diagnoses. Those who are able to employ a physician could not be treated in these clinics. In doing this we simply repeat what was said by the first President of the State Board of Health: "The sanitary care of the citizen is the first duty of the State." This program has and, undoubtedly, in its enlargement will meet with the hearty co-operation of the medical profession of the State.

COMMUNICABLE DISEASES.

Undoubtedly the most important field of activity is the prevention and control of communicable diseases. This Bureau needs a director, at least two epidemiologists and a sufficient office force to carry on its work.

Means must be provided whereby a careful study can be made into the modes, routes and channels by which infection takes place. Much of this information concerning some of the communicable diseases is already at hand, in which case an organized department for the scientific application of the known means for preventing and checking the spread of these diseases is required. Such work has been going on but the personnel has not been large enough to carry on all of the duties prescribed by the law, and at the same time give the close attention to the minute detail required in epidemiological work. A complete and comprehensive collection and classification of morbidity reports could be accomplished by such a Division.

By such a procedure we would be able to keep more closely in touch with the development of communicable diseases in the various localities and thereby provide for their immediate suppression.

It is the first case of a communicable disease in a locality that should cause alarm. It is much easier to handle one case than it is a series of cases and when we are able to make the proper epidemiological studies it will then be possible to

impress the people and the medical profession with the importance of immediate single case control.

Waiting until there is an epidemic of communicable diseases in a locality is not in accord with present day public health. I need not enumerate to you the action that would be taken on the part of a municipality if a case of Bubonic Plague or Asiatic Cholera should appear. No amount of money, time or expense would be given consideration in order to bring about a proper control of such a case.

As a result of the constant diligence on the part of Federal and State officials these diseases no longer exist in the United States. What is true of them can to a large extent be considered as true for diphtheria, typhoid fever, etc. When public sentiment is sufficiently aroused for the proper control and prevention of these latter diseases, it will be possible to make them as rare as Asiatic Cholera and Bubonic Plague. Pasteur well stated the truth when he said that it is within the power of man to wipe contagious disease from the earth.

OTHER DISEASES.

The death rate from heart disease, kidney diseases, arterial sclerosis, and other allied diseases is materially on the increase. These ailments are, within certain limitations, preventable, and the Department of Health plans to develop sufficient educational propaganda and make sufficient study of the cause of these diseases to enable the people to avoid to a marked degree at least these serious afflictions. This in part is as much the function of preventive medicine as the prevention of the well-known communicable diseases.

The Board also deems it essential to give careful study to the mental hygiene problem. Many of the serious maladies are preventable by proper environment, nourishment, and regulation of occupation.

One of the crying needs of the present time is the establishment of a central hospital for the full and complete treatment of crippled children and especially those incapacitated as a result of infantile paralysis. This necessitates the services of skilled orthopedic surgeons and nurses trained in orthopedic work to bring back to activity those who are now so unfortunately handicapped. A small percentage of these cases is efficiently handled by specialists engaging in this particular field of activity at the present time. A vast majority of these unfortunates, however, are without the proper care and Wisconsin can no longer fail to take advanced steps in the establishment of a central institution operated by an expert personnel for the purpose of making useful and happy citizens of those who are in part a burden upon the community and to themselves.

The Board also desires to seek the co-operation of the State Board of Medical Examiners for the purpose of permitting the Board of Health to incorporate a series of questions on preventive medicine in the examination given by that Board. Such a plan will encourage medical schools to give more instruction in disease control.

CENTRALIZATION OF HEALTH WORK.

Public health work is carried on by many organizations. These organizations may be classified as governmental, private, and volunteer. There is much overlapping of work and therefore it would seem needless expenditure of money. Because of no central office where the work of these various organizations can be correlated, conflicts often occur which actually prevent the development of substantial public health programs. This obvious defect has attracted the attention of the Federal Government and a resolution has passed the National Congress providing for a committee from the House of Representatives and Senate to investigate the activities of all public health and welfare agencies with a view to co-ordinating and regulating the work of these bodies through a central organization which will be a part of the Government and responsible for all Federal Health work. What is true of the Federal Government is undoubtedly essentially true of the State Government as it pertains to health programs. The object is to make public health as cheap to the people as possible. Undoubtedly by centralizing public health work under some controlling body a large amount of overhead expense could be eliminated, overlapping of activities could be avoided and greater unity of action could be put into effect. It cannot be questioned that the many activities have done a great amount of good and are doing a great amount of good at the present time. The health problem is a comparatively new problem and has not been fully appreciated by the public. The public today, however, is demanding the development of agencies which will give a proper degree of protection to its citizenship and it is the aim of this Board to build a Health Department for the people of the State which will be efficient in af-

fording protection against preventable diseases. To this end it is to be hoped that closer co-operation between the various agencies may be brought about and that all such agencies will be working upon a definite program. By this means the greatest good to the greatest number can be brought about with the least expenditure of money.

VENEREAL DISEASE CONTROL.

BY I. F. THOMPSON, M. D.,

DIRECTOR, BUREAU OF VENEREAL DISEASES.

As the work in the Bureau of Venereal Diseases of the State Board of Health develops, it becomes easier to demonstrate that the method of control of the venereal diseases is comparable to that of other communicable diseases.

In the last ten years the methods of procedure and manner of control of the communicable diseases have undergone great changes. As yet, we are not taking full advantage of the knowledge that we have. It has been proven, and the professional men must realize, that the problem of the control of the communicable diseases is the problem of the control of the individual case. This requires that every physician must feel the responsibility he owes to the public as much as the responsibility he owes to the patient. There must be hearty co-operation with the recognized health authorities before we can ever hope for a diminution in the number of cases that occur.

The venereal diseases have always been considered as "different." In the past a physician could treat an individual with a venereal disease as little or as much as he saw fit and the patient cared to return for treatment. Neither patient nor physician were accountable to anyone, or felt their responsibility. A majority of cases, in fact, were satisfied to try any treatment that was suggested to them. The venereal diseases were secret diseases, and for that reason a physician was supposed to do everything possible to keep anyone else from knowing that an individual was infected. The individual, in the meantime, could be as promiscuous as he desired and spread the disease wherever opportunity presented. As a result the venereal diseases might be found in any community and the cases were not even counted. Society paid for its neglect in wrecked homes, childless marriages, invalidism, blindness and insanity. And still the venereal diseases were different.

Twenty years ago Dr. Morrow said: "We may well ask why certain diseases are elevated to the dignity of a danger to the public health and every effort made to check their spread while another class of diseases, compared to which the former is but a molehill to a mountain, is completely ignored."

Today, Dr. Rosenau remarks that, "As a danger to public health, as a peril to the family, and as a menace to the vitality, health, and physical progress of the race, the venereal diseases may justly be regarded as the greatest modern plague."

When the time came that it required every means be used to place as many men as possible in the defense of right and justice, in a manner characteristically American, a plan was adopted combining the best of all the various worth-while methods that had heretofore been advanced. The American plan is not new in any one part. It is only new in that it is consistent in all its various parts and squares with the highest American standards of right living and right thinking, while still combining the best in curative and preventive medicine. The plan adopted for the period of the war needed but slight modification for use in the civilian population. There was not a change in methods, but in part.

It is recognized that the American man and woman, boy or girl, is inherently clean, and that there is an inborn spirit of chivalry and respect for the opposite sex. More than any other nation do we realize that there is no valid reason for a different law for man and woman. There must be but one moral law and that applying equally to both sexes.

Recognizing the fact that the public prostitute is the center from which all local sources of infection are fed, the effort has been made to eliminate them. The house of prostitution is ages old, but it should have no place in our civilization. There is no excuse for it, there is no reason for it.

The effort is made to make parents see their responsibility to their children. The army work demonstrated that such information as the men had was usually misinformation; such knowledge as they had was gained by experience. Continence was taught and continence has been proven to be compatible with great bodily strength and vigor.

Playgrounds and supervised play and recreation are advocated as means of keeping young people interested in wholesome things.

The placing of one or more police matrons in each city with a paid police force is of the greatest value.

The problem is being presented to the people of our state by means of speakers, films, charts, pamphlets and placards. The speakers are welcomed by groups in every city they visit. The number that see the films is limited by the capacity of the houses. The charts are shown in manufacturing plants, schools, churches, Y. M. C. A.'s and as exhibits at fairs and gatherings of various kinds. Pamphlets have been selected for men, women, boys, girls, general public and teachers. Placards have been placed in public buildings, manufacturing plants, etc. All these are preventive measures in combatting disease.

The first principle in the control of a communicable disease of any kind is the reporting of the case to the recognized health authorities. This is necessary in order that the prevalence of the disease may be understood, the localities which seem to act as centers of infection be known, and that the individual may be given the supervision needed to prevent further spread of the disease. This is true for smallpox and equally true for gonorrhea and syphilis.

In Wisconsin, the cases of venereal disease are reported on special blanks bearing serial numbers. As long as the individual is under treatment his name is not required. Should he neglect to follow out his treatments until cured, he becomes a menace to the public and forfeits his right to secrecy, and his name should be reported to the proper officials. It is then the duty of the authorities to see that the individual continues treatment. If the individual can be found, this is usually much easier than one would anticipate.

It is impossible for us to insist that the patients return to the physicians previously treating them. Many patients refuse to do so. We only insist that they must be under a physician's care. The work has been highly successful and very satisfactory to the physicians who have co-operated with the department.

The leaflet which the physician should give to the patient calls to the patient's attention the importance of the treatment and the necessity of being cured. If you will consider that all the information young men have had in the past regarding the venereal diseases was that overheard on the street or picked up from older boys; that the outstanding statement was to the effect "that gonorrhea was no worse than a cold," you will realize the value, the importance and the necessity of supplying each case with the information contained in the leaflet.

In carrying out this program one is soon met with the problem of the individual who is unable to pay for treatment. It is for the purpose of caring for the indigent and for those unable to pay the fees asked by specialists that clinics have been established in a number of our cities. These clinics are meeting another phase of the problem that has never been met before. In time they will eliminate the common practice of "self-treatment."

In the meantime, while caring for the cases that come to them, the clinics are centers of education for the surrounding territory. The workers in these clinics follow up the delinquent cases of the physicians. This is a service not only to the physicians, but they are able to point out to the individual the reasonableness and the need for returning for treatment that they may not be a menace to their wives and children in the years to come.

Where clinics are established individuals soon learn that "three day cures" are not cures. They also learn that it takes time to cure a case and the feeling of suspicion that many have had in the past disappears. The patients have more confidence in the advice of their physicians.

We are able to supply arsphenamine or neoarsphenamine free to all physicians who care to treat indigent cases for a nominal sum not to exceed $5. It is only necessary that you request the arsphenamine from the State Board of Health. Blanks will be sent you and when these are properly filled in and signed, the arsphenamine is sent. Blanks are also enclosed in order that the results of the treatment may be obtained.

There has been sent to every physician in Wisconsin a "Manual of Treatment of the Venereal Diseases." This is a revision of the manual furnished the physicians in the army. We do not expect that this book will make specialists of every physician, but it may bring to some men new ideas of value, while others will realize that the treatment of the venereal disease is a specialty, and that to properly and satisfactorily cure a case, more care is necessary than many have given in the past.

We learn that as a result of the program being carried on more chronic cases are being treated

(Continued on page 489)

PHYSICIAN'S REPORT.

Statistical Study of Tuberculosis with Pregnancy.

Milwaukee Medical Society, Milwaukee, Wis.

Patient's initials..... Age..... M. S. W. Yrs.....

Tuberculosis Diagnosed:

Before marriage—yes..... How long..... Date.....

no

Before pregnancy—how long..... Date.....

During pregnancy—period of..... Date.....

After pregnancy—how long..... Date.....

No. of healthy children.....

No. of tuberculous children.....

No. of pregnancies..... Date of last pregnancy.....

No. of pregnancies after diagnosis of T. B.....

Type of tuberculosis.....

Tubercle bacilli found

yes..... date..... Numbers.....

no, diagnosis based on.....

Patient treated at

home, how long.....

hospital, how long.....

sanatorium, how long.....

Management of pregnancy after diagnosis of tuberculosis.....

Condition during pregnancy.....

Patient aborted, date..... 19.....

Spontaneous, complete .....

incomplete .....

Therapeutic, method of.....

Criminal, complete .....

incomplete .....

How long pregnant.....

Effect of abortion on course of tuberculosis.....

Patient delivered, at term..... date .....

premature ..... date .....

normal .....

forceps, high..... mid..... low..... version

breech ..... cesarean section.....

labor induced ..... spontaneous .....

Anesthetic agent, ether..... chloroform .....

nitrous oxid-oxygen..... drugs.....

Complications .....Puerperium .....

Effect of labor on tuberculosis.....

.....

.....

Condition of child at birth.....

Subsequent evidence of T. B.

yes..... date..... no.....

Did mother nurse child—yes.....wet nurse.....

no

months artificial .....

Patient discharged as arrested, date..... 19.....

Patient discharged as improved, date..... 19.....

Patient last heard of, date..... 19.....

Condition .....

Child,

Healthy

T. B.

Sick

Died

Patient died, date.....

Cause of death.....

Was pregnancy or childbirth recorded as a contributory cause of death—

Yes

No

Remarks: .....

.....

.....

.....

.....

.....

.....

Date of report.....19.....

Signed.....M. D.

.....Street

.....City

.....State

Return to Dr. Oscar Lotz, Wisconsin Anti-Tuberculosis Association, 558 Jefferson Street, Milwaukee, Wis.

(Continued from page 486)

than ever before and that the acute cases are less frequently met with. This is further indicated by the gradually lessening ratio between the number of cases of syphilis and gonorrhea reported. It is an index of the value of the work being done.

Every state in the Union, with one exception, is carrying on a similar program. The statement is made that it is universally successful.

The success of this method of procedure bears out the statement previously made that the control of communicable diseases is the control of the individual case, and the venereal diseases should be placed in the same classification and made part of our general communicable disease program.

THE VALUE OF MILITARY SURGERY IN CIVILIAN PRACTICE—RESULTS OF ANOCIATION IN REDUCING MORTALITY.

In addressing the 73rd Annual Meeting of the Ohio State Medical Association (Journal O. S. M. A., September, 1919, p. 541), George W. Crile of Cleveland emphasized the value of Anociation in reducing operative mortality.

"The Interallied Surgical Conference," said Dr. Crile, "adopted as one of its conclusions that in the treatment of wounded soldiers the anaesthetic of choice is nitrous oxide—oxygen combined with local anaesthesia. Among the evidence offered in support of this tenet Surgeon-General Sir Anthony Bowlby presented the work of one of the most brilliant British military surgeons, Captain Douglas C. Taylor, and the work of the Chief of the Anaesthetic Service of the British Army, Captain Gregory Marshall. The experience of Captain Taylor I am privileged to quote. He has summed it up as follows: 'Until the summer of 1917 my colleague, Captain G. Marshall, invariably gave ether for my laparotomies for gun-shot wounds of the abdomen. No series of 100 consecutive cases showed a recovery rate of much over 50 per cent.

" 'During the summer and autumn of 1917, I did 101 laparotomies for abdominal wounds, and nearly half of them were given nitrous oxide and oxygen combined with infiltration of the abdominal wall with eucain and novocain. The more serious cases, i. e., those with rapid pulse and low pressure, were nearly all done by this method.

" 'Of this series, 27 died at the Casualty Clearing Station, and 74 were evacuated to the Base; of the latter there have been only two deaths, both from secondary hemorrhage—one from the kidney and the other from the rectum and buttock.' "

That is, by the employment of anociation, Captain Taylor's mortality rate was reduced from approximately 50 per cent to 29 per cent.

Captain Marshall has demonstrated that patients may apparently do well during ether anaesthesia but do badly afterward, while they do well both during and after nitrous oxide-oxygen anaesthesia.

The experience on a large scale of the resuscitation teams from the Lakeside Unit which served continuously throughout Field Marshal Haig's great offensive in Flanders in 1917, during which there were over 800,000 casualties, showed that in abdominal operations somewhat better results were obtained if, before the beginning of the operation, sufficient blood were transfused to permit a safe performance of the operation; and again at the completion of the operation an ample amount of blood up to 750 c.c. were given. Furthermore, if a let-down appeared later, the transfusion might be repeated. Meanwhile the advantages of comfort, rest, warmth, morphia and fluids were added.

The advantages of the nerve-blocking are further emphasized by Colonel Cabot's series of 180 amputations of the thigh, one-half under ether, and one-half under spinal anaesthesia, with a reduction of mortality by the use of spinal anaesthesia of 50 per cent; while Captain Taylor by the use of nitrous oxide-oxygen reduced his mortality rate for thigh amputations more than 200 per cent.

GAVE HIM AUTHORITY.

It is related of Darwin that when pursuing his early studies relative to effects on animal species produced by long-continued mutilation of some special kind, he wrote to Huxley, asking his opinion and suggested, for example, if anything could be deducted from an examination into the peculiar racial custom of circumcision. Huxley's answer came by next post: "There is a divinity that shapes our ends, rough hew them as we will."—*Exchange.*

The viper when he goeth into the water for the purpose of copulation with fishes, leaveth his venom upon a certain stone upon the shore, and afterward, returning, he taketh it up again.—*Joannes Cammers, ex Aristotele.*

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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The Wisconsin Medical Journal, Official Publication

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Winnebago	F. G. Connell, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	D. Waters, Grand Rapids	F. X. Pomainville, Grand Rapids.

SOCIETY PROCEEDINGS

FOX RIVER VALLEY MEDICAL SOCIETY.

The annual meeting of the Fox River Valley Medical Society was held in Green Bay, March 5. The following officers were elected for the current year: First vice-president, Dr. E. G. Nadeau, Green Bay; second vice-president, Dr. F. J. Woehos, Kewaunee; secretary-treasurer, Dr. R. L. Cowles, Green Bay. The business meeting was held in the Elks' Clubhouse, after which a dinner was served at the Beaumont Hotel. A paper on "Enterostomy" was read by Dr. V. F. Marshall, Appleton; one on "Some Observations on the Economics of the Practice of Medicine" by Dr. H. A. Vennema, Menomonie; and another on "The Green Bay Health Center" by Dr. F. J. Gosin, Green Bay.

DANE COUNTY

The Dane County Medical Society held its fifth public health lecture in Science Hall, March 16. Professor A. S. Loevenhart of the department of pharmacology of the University gave an illustrated lecture on "The Patent Medicine Evil and Its Relation to Prohibition."

BARRON-POLK-WASHBURN-SAWYER-BURNETT COUNTY

A meeting of the Barron P. W. S. B. County Medical Society was held at Spooner, March second. The following officers were elected for 1920: President, Dr. I. G. Babcock, Cumberland; vice-president, Dr. A. S. White, Rice Lake; secretary-treasurer, Dr. B. N. Webster, Rice Lake; delegate, Dr. J. H. Wallis, Barron; and alternate, Dr. I. G. Babcock, Cumberland.

The following resolutions were adopted:

Feeling that Dr. Gentz Perry, who has been an active member of our county and state medical societies for many years, and whose professional and ethical standing has always been of the highest order, deserves some public recognition from his medical associates, we, the members of the Barron-Polk-Washburn-Sawyer-Burnett County Medical Society, hereby express our regret at losing Dr. Perry from our active meetings.

We further express our entire satisfaction in seeing Dr. Perry given a position in the Federal service. He has always been consistently patriotic and public spirited and was among the first to enter the U. S. Military Service at the beginning of the World War. He served two years and nearly half of that time was in active service with the A. E. F. on the Northern frontier of France. He was always officially attached to the same Military Unit in the A. E. F., showing that his continuous service was of a successful and satisfactory character. The Surgeon General of the U. S. P. H. S. has made a commendable selection in placing Dr. Perry in charge of that work in the state of Wisconsin, and we feel that the Doctor will bring to the work that careful and efficient business and executive, as well as professional, ability that has always characterized his private and public work.

Therefore, be it resolved that we express our appreciation of Dr. Perry, and of the wisdom of the Federal officials who selected him for the important position that he now holds, and that we send a copy of these resolutions to the editor of the Wisconsin State Medical Journal so that same may be published therein.

I. G. Babcock,
President

B. N. Webster,
Secretary.

MILWAUKEE COUNTY.

The regular meeting of the Milwaukee County Medical Society was held at the Health Service Building, Friday evening, March 12, at 8:30 o'clock. The following program was presented: "Mechanical Fixation of Fractures", by Doctor Edward Quick, and "Some Types of Onset of Pulmonary Tuberculosis"—with lantern slide demonstration, by Doctor L. M. Warfield.

At the regular meeting of the Milwaukee County Medical Society held at the Health Service Building, April 9, the following program was given: "Acute Acid Intoxication of Childhood", by Doctor G. A. Fellman, and "Demonstrations of Some Types of Electrocardiograms", by Doctor M. F. Rogers.

Daniel Hopkinson, M. D.
Secretary.

MILWAUKEE MEDICAL SOCIETY

The regular meeting of the Milwaukee Medical Society was held in the society rooms, March 9, at eight P. M. A fine program was presented as follows: "Radium in Dermatology", Doctor Harry Foerster; "X-Ray in Dermatology", Doctor Clarence A. Baer; and "Radium Therapy in Gynaecology", by Doctor Arthur Curtis of Northwestern University Medical School, Chicago.

At the regular meeting of the Milwaukee Medical Society, held in the society rooms, March 23, ways and means of obtaining the following necessities for the society were discussed: A stereopticon lantern, money for the library, new quarters by 1922, an endowment fund, and a little more pep and interest by each member of the society. The following program was given: "A Brief Discussion of the Etiology and Pathology of Chronic Gastric and Duodenal Ulcers", Dr. Daniel Hopkinson; "The X-Ray Findings in Chronic Gastric and Duodenal Ulcers", Dr. Russel D. Carman, Mayo Clinic, Rochester; "The Treatment of Chronic Gastric and Duodenal Ulcers", Dr. J. L. Yates. A discussion of the papers followed after which a meeting of the Council was held. The necessity of aiding the Book and Journal Club, an organization not affiliated with the medical society but maintained to a large degree by its members, was discussed. The Book and Journal Club aims at establishing a large library which will aid the medical men.

Oscar Lotz, M. D.,
Secretary.

SHEBOYGAN COUNTY

The Sheboygan County Medical Society held its regular monthly meeting at the Grand Hotel, Sheboygan, on the evening of February 24. A dinner was given by the society in honor of its returned service men. Lieut. Colonel Evans of Milwaukee delighted the society with a most interesting talk and paper on experiences in the late war.

H. H. Heiden, M. D.,
Secretary.

ASSOCIATION NEWS

THE TWENTY-EIGHTH ANNUAL MEETING OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

The Twenty-eighth annual meeting of The Association of Military Surgeons of the United States will be held at New Orleans, La., April 22nd to 24th, with headquarters at the Hotel Gruenwald.

Three sessions daily will be held and at these addresses will be made on pertinent topics by members of The Association and discussed at the meetings. In spite of the name of The Association, the topics dealt with do not confine themselves absolutely to the field of Military surgery. That this is true is easily understood as the fact of a man's being in the service does not divorce him from the ordinary problems of the practice of medicine. This meeting occurs immediately prior to that of the American Medical Association whose meeting begins on the 26th and it is hoped that many of those who expect to attend the latter meeting may arrange their plans so as to take in our meeting as well.

It is desired to invite attention to a fact which is not generally understood by medical men of the country and that is that practitioners in medicine are welcome at any of the sessions of The Association even though they be not members themselves. It is the desire of The Association to have the medical profession of the country conversant with the work which is being done by The Association of Military Surgeons and we feel that in this way they may very readily become acquainted with it.

Any further information relative to this meeting may be obtained by addressing The Secretary, Army Medical Museum, Washington, D. C.

PROGRAM OF THE WISCONSIN SURGICAL ASSOCIATION.

CLINICAL SESSION, MILWAUKEE, WISCONSIN.

Wednesday and Thursday, May 12th and 13th, 1920, Headquarters The Hotel Wisconsin.

WEDNESDAY MAY 12, 1920.

EVENING SESSION

8:00 P. M.

HOTEL WISCONSIN

1. President's Address, Dr. W. C. F. Witte, Milwaukee, Wisconsin.
2. Election of Officers.
3. "Acute Intestinal Obstruction," Dr. C. U. Senn, Ripon, Wis.
4. "Address on Bone Surgery," Dr. B. F. Lounsbury, Surgeon C. M. & St. P. R. R., Chicago, Ill.

THURSDAY, MAY 13th, 1920.

CLINICS.

8:00 A. M. to 5:00 P. M.

St. Mary's Hospital—Dr. Chas. H. Lemon, Dr. W. C. F. Witte.

St. Joseph's Hospital—Dr. Fred C. Stratton, Dr. C. M. Echols.

Milwaukee County Hospital, Wauwatosa, Wis.—Dr. Fred J. Gaenslen, Dr. L. F. Jermain.

EVENING SESSION

6:30 P. M.

HOTEL WISCONSIN.

Dinner and Joint Meeting with the Medical Society of Milwaukee County.

1. Tuberculous Kidney, Dr. Arthur G. Sullivan, Madison, Wis.
2. The Surgical Aspect of Goiter, Dr. S. J. Seeger, Milwaukee, Wis.
3. Title to be Announced Later, Dr. Julius J. Bellin, Green Bay, Wis.

LOCATIONS OF HOSPITALS.

St. Mary's Hospital, 448 Lake Drive.

St. Joseph's Hospital, 4th St. and Reservoir Ave.

Milwaukee County Hospital, Wauwatosa, Wis.

Wells St. Car leaving 3rd and Grand Ave. for Wauwatosa every 20 minutes, leaving on the hour, 20 minutes before and 20 minutes after.

There will be a special Bulletin issued daily. Register your arrival immediately at the Information Bureau at the Hotel Wisconsin, and receive the Bulletins and such other information regarding the meeting as it is not now possible to publish.

NEWS ITEMS AND PERSONALS.

Dr. Hugh H. Williams of Sparta joined the firm of Sarles, Beebe and Beebe, April first.

Dr. W. C. Bennett, formerly of Rhinelander, who entered the service in 1917, after his discharge was made a member of the Federal Board for Vocational Education. Last November he was commissioned a major in the U. S. Public Health Service and is at present chief surgeon of district number eleven, comprising four states, with headquarters in Denver, Colorado.

Plans for the enlargement of the Milwaukee County Hospital for Mental Diseases are under consideration. Three hundred thousand dollars has been set aside for the work.

Doctor A. A. Pleyte has sold his home in Delafield and moved to Milwaukee. Doctor H. T. Barnes of Pewaukee will take up the practice in Delafield.

Doctor Harry L. Cohn has resigned as director of the Milwaukee County Free Dispensary. Doctor Harry S. Sargent has received a temporary appointment as director, pending the selection of a successor through civil service.

Plans are being completed which will double the size of the Deaconess Hospital, Green Bay, according to in-

formation given out by Dr. J. J. Bellis, Chief of Staff of the institution. A new unit is to be built which will give the hospital a capacity of 120 beds. The decision to construct the second unit of the institution follows a reorganization of the hospital staff on the plan outlined by the American College of Surgeons. This plan provides for a standardization now being taken up generally by the hospitals of the country.

Dr. E. L. Bolton of Chilton, who has removed to Appleton, is suceeeded in Chilton by Dr. J. W. Goggins of Calumetville.

After serving seven and a half years in the food inspection division of the Milwaukee health department, Doctor Stanley Pilgrim has been promoted to the position of head of that division, recently vacated by the resignation of Doetor H. H. Bryant.

Dr. C. A. Lothrop of Oshkosh has been elected surgeon of the hospital of the Wisconsin Veterans Home by the board of managers, to succeed the late Major A. E. McCallen.

Dr. D. W. Lynch has re-opened his hospital at West Bend, which he was forced to close when he entered the army.

Beloit physicians and surgeons went on record at a recent meeting of the Physicians' and Surgeons' Club as strongly approving the establishment in the city of one of the branch state co-operative laboratories. The laboratory is said to be a necessity and it was pointed out that the public health officer would be greatly aided in his work if such an institution is established.

Dr. H. H. Hannum of Bayfield who has been in an Ashland hospital several months as the result of a broken hip has gone to Muskegon, Michigan, where his son, a practicing physieian, resides. Doctor Hannum is steadily improving in health.

Doetor F. T. Clark and F. Z. Havens of Waupun have formally announced the formation of a partnership for the practice of medicine. Doctor Havens is a graduate of Rush Medical College and served an internship in St. Luke's Hospital, Chicago. Before going to Waupun, he spent several months in Chicago in post-graduate study.

Doctor F. R. Silverthorn, who has made Berlin his home for more than ten years, has sold his practice and gone to Chicago to take a post-graduate course in diseases of the eye, ear, nose and throat.

Neillsville has under consideration the erection of a hospital there. The company will be capitalized at $50,000, divided into shares of $25.00.

Doctor E. A. Miller has rcturned to Clintonville after spending four months in Chicago in post-graduate work.

The proposition of building a hospital at River Falls has been under discussion by the city council. The matter of bonding or taxation for the purpose of raising funds for a hospital will be put up to the people at the next city election.

Dr. A. M. Kersten of De Pere has been elected an honorary member of the Brown-Kewaunee Medical Society. Doctor Kersten, who has retired from practice, is one of the oldest time physicians in the Fox River Valley.

In the employment this year of a skilled glass blower to make the delicate apparatus needed by its physics and chemistry departments, the University of Wisconsin now has facilities in this respect rivalled only by Harvard, Johns Hopkins, and half a dozen other large universities. J. B. Davis, the glass blower whom the university secured last fall, is one of about a hundred skilled glass blowers in the country and one of half a dozen native-born experts in his art. Mr. Davis devotes his entire time to making thermometers, hydrometers, X-ray tubes, gas analysis apparatus, burettes, and other delicate laboratory instruments which formerly the university was forced to buy from commercial firms.

Miss Nelly Van Kooy, R. N., recently appointed as field supervising nurse in the state board of health's bureau of ehild welfare and public health nursing, will continue in her new position work which she has earried on for several years as demonstration and supervising nurse with the Wisconsin Anti-Tuberculosis association.

Plans have been completed for the opening of the Kenosha clinic for the study of the "social diseases" in Kenosha. The physician in charge is already on the job and much field work has been done. The clinic will have aid from the state. Later on a dental clinic will also be opened.

About ten young women have entered the new nurses' training school just opened by the Medical school of the University of Wisconsin. The number is limited as yet but in June about fifteen more will be admitted, and several applications have already been received. The qualifications for entrance are the same as for entering the university.

Exactly 1,203 doctors and health officers in 432 towns in 70 Wisconsin counties, sent 16,151 bacteriological specimens for diagnosis during the last six months to the six state laboratories of hygiene that are conducted by the state board of health and the University of Wisconsin. Florence was the only county that did not send a specimen. A total of 1,038 doctors and health officers in 411 towns sent 10,927 specimens to the central hygienic laboratory at Madison, as compared with 7,256 during the same period last year. During this period, July 1 to Jan. 1, 323 doctors in 107 towns submitted 5,224 specimens to the five branch laboratories conducted at Kenosha, Oshkosh, Rhinelander, Superior, and Wausau. The greatest number of diagnoses was carried on at Oshkosh, while the largest number of doctors used the Rhinelander laboratory.

School physicians inspected 11,086 pupils of public and parochial schools of Milwaukee during February, and made 3,737 physical examinations. Correction of defects was recommended in 1,433 cases and 309 children were excluded from school.

DEATHS.

Dr. William A. Batchelor, Milwaukee, died suddenly at Cleveland, Ohio, March 18. He was born in 1856, graduated from the Pennsylvania University School of Medicine in 1884, and was a member of the Milwaukee County, Wisconsin State, and American Medical Associations.

Dr. William H. Hurlbut, Fond du Lac, died at the home of his daughter, March 23. Doctor Hurlbut was born at Venice, New York, in 1837, and graduated from the Eclectic Medical College, Ohio, in 1868. He practiced medicine in Elkhorn for forty years and was also in charge of the Walworth County insane asylum while there. He came to Fond du Lac eight years ago where he practiced until the time of his death.

Dr. Malcom G. Violet, formerly a practicing physician of Fond du Lac, died at his home in Waterford, February 27, following a brief illness. He graduated from the Hahnemann Medical College, Chicago, in 1886, and practiced in the northern part of Wisconsin for a number of years. He then practiced in Waukesha and Fond du Lac, removing to Waterford about three years ago where he practiced until the time of his death.

Dr. Michael Van Devoort, who formerly lived in Fond du Lac, died at his home in Guthrie, Oklahoma, March 10, at the age of 80 years. He was born in Clinton County, New York, and lived there until 1846 when his family moved to Fond du Lac. In 1860, the doctor went West and engaged in gold mining for several years. Returning to Wisconsin, he took up the study of medicine and graduated from Hahnemann Medical College, Chicago, in 1868. He practiced medicine in Fond du Lac for a number of years and removed to Guthrie in 1889, where he served as president of the Oklahoma Board of Health and Medical Examiners.

Dr. F. E. Fletcher of Ashland, died March 4, after a lingering illness. He was born in 1843 and graduated from the Michigan University School of Medicine in 1865. He practiced medicine in the copper country for a number of years and located in Ashland about sixteen years ago. He was a member of the Ashland-Bayfield-Iron County Medical Society, the Wisconsin State and the American Medical Associations.

The annual convention of the National Anaesthesia Research Committee will be held in Pittsburg the week of October 4, in conjunction with that of the Inter-State Anaesthetists' Association and the Pennsylvania Medical Society. Prizes aggregating $200 are offered by the Society for the best papers on original research in anaesthesia, such papers to be read at the annual meeting. This offer is open to all surgical, medical, and dental students, and practitioners in the United States.

HOME AND THE OFFICE.

(BY EDGAR A. GUEST.)

Home is the place where the laughter should ring
And man should be found at his best.
Let the cares of the day be as great as they may,
The night has been fashioned for rest.
So stand at the door when the toiling is o'er
And leave all your burdens behind,
And just be a dad to your girl or your lad—
A dad of the rollicking kind.

The office is made for the tasks you must face,
It is built for the work you must do;
You may sit there and sigh as your cares pile up high.
And no one may criticise you;
You may worry and fret as you think of your debt,
You may grumble when plans go astray,
But when it comes night, and you shut your desk tight,
Don't carry the burdens away.

RED CROSS TO CONTINUE ARMY WORK.

The American Red Cross will continue in peace the work which it carried on with the Army during the war. It will have charge of recreation for patients in all military general hospitals under supervision of hospital commanders, and will continue its system of Home Service in all hospitals, camps, posts and other army stations. This it has been requested to do by the War Department, and its relation to the peace-time army has been clearly defined at a conference of the Education and Recreation Branch, War Plans Division of the General Staff of the Army, at Louisville, Kentucky, in which Red Cross officials participated, and during which various problems pertaining to the work were discussed. The Red Cross was asked to send representatives because of the fact that the work of the Red Cross is so closely allied to that of the Education and Recreation Branch.

High tribute was paid the Red Cross by several of the army officers participating in the conference.

"It was a tremendous relief to me," said Colonel Rees, Chief of the Education and Recreation Branch, "in my responsibility at Washington to know that we are going to have an experienced body, such as the Red Cross, to continue just those activities within the army camps that we would find the most difficult to accomplish. We can take care of well soldiers, we can organize for that, but the peculiar ability to encourage and raise the spirit of convalescents so that their recovery is certain, is a matter which your organization is expert in and which we should find it most difficult to accomplish without your help. It is a source of great assurance to us to know that this world wide organization of the American Red Cross, which performed miracles during the World War for the benefit, not only

of the American Army but for all the armies, and I think we may say for all mankind, is with us in our smaller problems in time of peace, and is going to continue to aid us and be an inspiration to us for work of a similar kind which we must now carry forward on our own responsibility in the peace time army."

Said Major-General Charles P. Summerall, commander of Camp Taylor, in welcoming the delegates:

"I quite understand the mission of the Red Cross in peace and we are quite in sympathy with the principles. The Red Cross has taken deep root in our national life and certainly in our army life. We can't spare you and we can't do without you and we hope to have you with us in the future as we have had in the past."

FAKE CURES MOVE TO CANADA.

DRUG OFFICIALS TAKE STEPS AGAINST PROPRIETARY MEDICINES COMING FROM DOMINION.

That some of the old "sure cure" medicine fakes which have been driven out of business in this country have become established across the border in Canada and are attempting to do business, particularly through the mails, with such of the old victims as survived previous treatments and are still susceptible to the blandishments of alluring advertisements and labels, is the evidence secured by the United States Department of Agriculture. Federal drug inspectors of the Bureau of Chemistry have been instructed to watch proprietary medicines imported from Canada.

The Federal Food and Drugs Act applies to imported drugs as well as those of domestic manufacture. The law in some respects is more stringent in its application to imported than to domestic products. It provides that foods and drugs which are being imported into the United States or offered for import shall be refused admission into this country if adulterated or misbranded under the Federal Food and Drugs Act, or otherwise dangerous to the health of the people, if they are of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which made or from which exported or otherwise falsely labeled in any respect. Already a number of shipments of proprietary medicines from Canada have been denied entry into this country and all future shipments will be closely scrutinized to see that they comply with the Federal Food and Drugs Act.

The proprietary medicine manufacturer thrives on alluring claims as to the curative powers of his product, say the bureau officials. Preparations made of a few cheap ingredients with little or no therapeutic effect are labeled as "sure cures" for tuberculosis, kidney disease, scarlet fever, diphtheria, pneumonia, influenza, goiter and a host of minor ills. The purchase of such worthless preparations is not only a waste of money, but the sufferers, relying on the false promises of benefit printed on the package or in the advertising literature, may experience material injury through failure promptly to institute proper treatment.

Officials will act in all cases, both imported and domestic, found to be in violation of the law.

FIRST AT THE HUSBAND SHOW.

"A unique affair was given on the North Side during the past week in the form of a 'Husband Show,' at which the general merits and 'show points' of husbands were fully considered by the large number of women present. The first prize was won, hands down and against all comers, by Dr. Albert E. Palmer, a prominent physician."—*Chicago Daily Paper.*

Rich man, poor man, beggar man, thief,
Lawyer, merchant, jurist, chief,
All arrayed in a gallant row
Awaiting awards in the husband show—
  Surely it's no surprise to you
  That a doctor captures the ribbon blue.
You're well enough, as the women know,
To hustle about for the needful dough;
You're well enough, if you're good and wise,
To run in the race for the husband prize,
  But surely it's no surprise to you
  That a doctor captures the ribbon blue.
For the doctor man is a handy lad—
He has soothing dope when the kids are bad
When the cook is gone he can take a part—
As master of dietetic art.
  So surely it's no surprise to you
  That a doctor captures the ribbon blue.
When you stay out in the stilly night,
You're classed as a sinful brute, all right,
While doc is excused with a smiling face
And pitied, in fact, on his tiresome case
  So surely it's no surprise to you
  That a doctor captures the ribbon blue.
If you should smile at a winsome dame,
Your record is written scarlet shame—
But the doctor's wife just says of him,
"I'm glad that the patients are fond of Jim"—
  Now maybe the doctor seems to you
  A hog to capture the ribbon too.

A man went into a druggist's shop and asked for something to cure a headache. The druggist held a bottle of hartshorn to his nose and he was nearly overpowered by its pungency.

As soon as he recovered he began to rail at the druggist and threatened to punch his head.

"But didn't it ease your headache?" asked the apothecary.

"Ease my headache!" gasped the man. "I haven't got any headache. It's my wife that's got the headache."

Young Pillbox hung a shingle out
  To show he was M. D.,
And from A. M. to late P. M.
  His office was M. T.

From the Kalamazoo Press we learn that a young lady of Pontiac was "hurt on her birthday." This is more painful than being tanned on one's vacation, but not so bad as being sunburned on one's week-end.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

MODERN SURGERY: General and Operative. By J. Chalmers Da Costa, M. D., L. L. D., F. A. C. S. Eighth Edition, revised, enlarged, and reset. Octavo of 1698 pages, with 1177 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth $8.00, net.

PRACTITIONERS' MANUAL OF VENEREAL DISEASES. By A. C. Magian, M. D., Paris, France. 215 pages. Illustrated. St. Louis, Missouri: C. V. Mosby Company. Cloth $3.00.

SYSTEMATIC DEVELOPMENT OF X-RAY PLATES AND FILMS. By Lehman Wendell, B. S., D. D. S. 78 pages. Illustrated. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $2.00.

AFTER-TREATMENT OF SURGICAL PATIENTS. By Willard Bartlett, A. M., M. D., F. A. C. S., and collaborators. Two volumes—1066 pages. 435 illustrations. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $10.00.

SYPHILIS. A Treatise on Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment. By Henry H. Hazen, A. B., M. D. 647 pages. 160 illustrations—16 in colors. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $6.00.

MUSTARD GAS POISONING. By Aldred S. Wathin, Ph. D., M. D. 267 pages. 156 illustrations. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $7.00.

ANAPHYLAXIS AND ANTIANAPHYLAXIS and Their Experimental Foundations. By Dr. A. Besredka, Professor at the Pasteur Institute. 143 pages. St. Louis, Missouri: C. V. Mosby Company. 1919. Cloth $2.25.

FOOD FOR THE SICK AND THE WELL, How to Select It and How to Cook It. By Margaret P. Thompson, R. N. 82 pages. Yonkers-on-Hudson, New York: World Book Company. 1919. Cloth $1.00.

PSYCHOLOGY OF THE NORMAL AND SUBNORMAL. By Henry H. Goddard, A. M., Ph. D., Director Ohio Bureau of Juvenile Research. 349 pages. Illustrated. New York: Dodd, Meade & Company. 1919. Cloth $5.00.

THE HIGH ROAD TO HEALTH. By Dr. James E. Kelly. 254 pages. Illustrated. New York: Dodd, Meade & Company. 1919. Cloth $1.75.

DISEASES OF THE NERVOUS SYSTEM. A textbook of Neurology and Psychiatry. By Smith Ely Jelliffe, M. D., Ph. D., and William A. White, M. D. Third edition, revised, rewritten and enlarged. Illustrated. 1018 pages. Philadelphia: Lea & Febiger. 1919. Cloth $8.00.

CRIME AND CRIMINALS. The Jurisprudence of Crime, Medical, Biological and Psychological. By Charles Mercier, M. D., F. R. C. P., F. R. C. S. 290 pages. New York: Henry Holt & Co. 1919. Cloth $2.50.

OUTLINES OF PSYCHIATRY. By William A. White, M. D. Seventh edition. 345 pages. Washington: Nervous & Mental Disease Publishing Co. 1919. Paper $3.50.

THE AUTONOMIC FUNCTIONS AND THE PERSONALITY. By Edward J. Kempf, M. D. 155 pages. Washington: Nervous & Mental Disease Publishing Co. 1918. Paper $2.00.

INBREEDING AND OUTBREEDING: Their Genetic and Sociological Significance. By Edward M. East, Ph. D., and Donald F. Jones, Sc. D. Illustrated. 285 pages. Philadelphia: J. B. Lippincott Co. 1919.

THE NARCOTIC DRUG PROBLEM. By Ernest S. Bishop, M. D., F. A. C. P. 165 pages. New York: The MacMillan Co. 1920. Cloth $1.50.

THE WOMAN OF FORTY. By Edith B. Lowry, M. D. 202 pages. Chicago: Forbes & Co. 1919. Cloth $1.25.

APPLIED EUGENICS. By Paul Popenoe, M. D., and Roswell Hill Johnson, M. D. 459 pages. Illustrated. New York: The MacMillan Co.

THE PSYCHOLOGY OF CONVICTION. By Joseph Jastrow. 386 pages. Boston: Houghton-Mifflin Co. 1918. Cloth $2.75.

HABITS THAT HANDICAP. By Charles B. Towns. 233 pages. New York and London: Funk & Wagnalls Co. 1920.

THE SURGICAL CLINICS OF CHICAGO. Volume IV. Number I (February, 1920). Octavo of 231 pages. 83 illustrations. Philadelphia and London: W. B. Saunders Co. 1920. Published bi-monthly. Price per year: Paper $12.00; cloth $16.00.

THE MEDICAL CLINICS OF NORTH AMERICA. Volume III. Number III (The Mayo Clinic Number, November, 1919). Octavo of 296 pages, 79 illustrations. Philadelphia and London: W. B. Saunders Co. 1920. Published bi-monthly. Price per Clinic year: Paper $12.00; cloth $16.00.

THE MEDICAL CLINICS OF NORTH AMERICA. Volume III. Number IV (The Boston Number, January, 1920). Octavo of 316 pages, 43 illustrations. Philadelphia and London: W. B. Saunders Co. 1920. Price per Clinic year: Paper $12.00; cloth $16.00.

INBREEDING AND OUTBREEDING: THEIR GENETIC AND SOCIOLOGICAL SIGNIFIGANCE. By Edward M. East, Ph. D., and Donald F. Jones, Sc. D. Illustrated. 285 pages. Philadelphia: J. B. Lippincott Co. 1919.

"Inbreeding and Outbreeding," published by the Lippincott Company, is another of their excellent monographs on experimental biology, several numbers of which have preceded the volume here reviewed. The series is edited by Jacques Lobe of the Rockefeller Institute, T. H. Morgan of Columbia University, and W. J. V. Osterhout of Harvard.

It provides the same opportunity for the study of experimental biology as afforded by certain English authors in issuing a series of monographs in biochemistry, physiology, and physics. The present volume covers reproduction among animals and plants, its mechanism, and the mechanism of heredity, inbreeding experiments and cross breeding, inbreeding and outbreeding in evolution, the intermingling of races, etc.

It is a scholarly work recording most interesting and valuable experiments and is a valuable contribution to the development of the subject. It is well illustrated.

THE WOMAN OF FORTY. By Edith B. Lowry, M. D. 202 pages. Chicago: Forbes & Co. 1919. Cloth, $1.25.

This little work by the author of several popular works on kindred subjects is a safe and sane exposition of the mental and physical life of the woman at the menopause. It is the sort of book the general practitioner could well afford to have within reach of his office desk for the purpose of loaning to his patients. He would have ample opportunity to loan it almost daily and it will give the woman of forty a sensible explanation of her changing mental life and give her an understanding of her condition, together with instructions as to the care of herself.

THE NARCOTIC DRUG PROBLEM. By Ernest S. Bishop, M. D., F. A. C. P. 165 pages. New York: The MacMillan Co. 1920. Cloth, $1.50.

Doctor Bishop's work on the narcotic drug problem is the result of many years as resident physician in the alcoholic, narcotic, and prison service of Belleview Hospital and the Workhouse Hospital of the New York Department of Corrections.

The volume covers the nature and mechanism of narcotic drug addiction-disease, methods of treatment, general instructions as to handling these cases, the relation of addiction to surgical cases and intercurrent disease, laws and their relation to narcotic drugs, and a general survey of the situation and the needs of the hour. In an interesting appendix of thirty pages, a series of human documents giving the personal side of drug addiction is recorded. Doctor Bishop recognizes the fact that there is an addiction disease and this real disease should be treated as our other diseases—as opposed to the old general conception that addiction is a "vice," a "habit," and a "morbid appetite" which should be punished socially as well as legally.

CRIME AND CRIMINALS: THE JURISPRUDENCE OF CRIME, MEDICAL, BIOLOGICAL, AND PSYCHOLOGICAL. By Charles Mercier, M. D., F. R. C. P., F. R. C. S. 290 pages. New York: Henry Holt & Co. 1919. Cloth, $2.50.

Those who have read Mercier's "Criminal Responsibility" will welcome this new work from the pen of one who has contributed some of the most valuable literature on the subject. No one has shown the understanding of the psychology of anti-social acts which has been shown by Charles Mercier. It is high time works of this character are called to the attention of thinking men and women, for on no subject has so much nonsense been written as this subject of criminology and criminals.

The public press has given page after page to unscientific and inaccurate statements of spectacular reformers, who have through political or other influence engaged in prison reform. Mercier's present work, like its predecessors, is an authoritative exposition on the subject, and will prove interesting and profitable reading to anyone—layman, teacher, or physician interested in the subject.

APPLIED EUGENICS. By Paul Popenoe, M. D., and Roswell Hill Johnson, M. D. 459 pages. Illustrated. New York: The MacMillan Co.

This volume, written by Paul Popenoe, editor of the Journal of Heredity (organ of the American Genetic Association), and Roswell Hill Johnson, professor in the University of Pittsburgh, is a new and valuable addition to MacMillan's social science textbooks, edited by Richard T. Ely. It is interestingly illustrated with various half-tones and diagrams, and covers the subject in thorough and masterly fashion.

The subject of eugenics, now that the great war has caused a vast destruction of the peoples of the earth, should be of more interest than ever as, especially in Europe, the progeny of the weaker members left will populate these countries in the future. Eugenics has become something more than a branch of biology—it has become of supreme importance to the student of sociology. The work under discussion is a splendid text on a most important subject and is recommended to students of medicine, of sociology, clergymen, educators, editors, lawyers, and the judges of our courts.

THE PSYCHOLOGY OF CONVICTION. By Joseph Jastrow. 386 pages. Boston: The Houghton Mifflin Co. 1918. Cloth, $2.75.

A study of beliefs and attitudes by Joseph Jastrow, Professor of Psychology, University of Wisconsin, will be of more than ordinary interest, not only to the Wisconsin medical profession, but to psychiatrists and students of the State as well. Professor Jastrow's international standing in the realm of psychology is a sufficient guarantee in itself of the quality and scientific soundness of any publication appearing under his name. The scope of the work is told by the table of contents: "The Feminine Mind," "Belief and Credulity," "The Case of Paladino," "Militarism and Pacifism," "Malicious Animal Magnetism," "The Psychology of Indulgence," "The Psychology of Conviction," "Fact and Fable in Animal Psychology," "The Democratic Suspicion of Education," "The Will to Believe in the Supernatural," and "Antecedents of the Study of Character and Temperament."

Of special interest to physicians will be the chapter on "The Psychology of Indulgence": alcohol and tobacco; the chapter on "Malicious Animal Magnetism" with a "diagnosis of Mrs. Eddy's paranoiac sentiments" and the exposition of the psychology of Christian Science. The concluding chapter of the work on "Militarism and Pacifism" will appeal to all who have been following the upheaval of our ordinary beliefs and convictions during the period of the world conflict.

Professor Jastrow's new work, many of the chapters of which have appeared in periodical form, has an appeal and an interest which will keep it on your library table within reach rather than on your book-shelves.

HABITS THAT HANDICAP. By Charles B. Towns. 223 pages. New York and London: Funk and Wagnalls Co. 1920.

This is a new work by Charles B. Towns, a layman, who has made good in the study and treatment of narcotics, alcohol, tobacco, and other drug addictions. His name is best known to us in association with the name of Doctor Lambert, and while there are those who do not entirely agree with Mr. Towns in some of his meth-

ods of treatment, he has many loyal supporters among our best medical men.

The preface in the book by Robert C. Cabot endorses all except the chapter relating to tobacco. Doctor Alexander Lambert has contributed a chapter on the relation of alcohol to disease. The book is written in popular style and the headings of the chapters are rather fantastic. It is well worth while, however, and should be in the library of everyone who is called upon to treat the drug addict.

Diseases of the Nervous System: A Textbook of Neurology and Psychiatry. By Smith Ely Jelliffe, M. D., Ph. D., and Wm. A. White, M. D. Third edition, revised, rewritten, and enlarged. Illustrated. 1018 pages. Philadelphia: Lea & Febiger. 1919. Cloth, $8.00.

The third edition of "Diseases of the Nervous System," which has been revised, rewritten, and enlarged, is a pretentious work of 1018 pages, illustrated with 470 engravings and twelve plates. The success with which previous editions have been received is a guarantee of the prospects of the third edition.

The newer developments in the field of vegetative neurology and of the endocrinopathies have been carefully sifted and increased in the present edition. The chapters on sensorimotor neurology have been carefully revised in accord with the many new observations which the world war has afforded and the many hypotheses relative to this large sphere in nervous diseases.

The book is divided into four parts, the first covering the general principles underlying a classification of the diseases of the nervous system and methods of examination. The second part, under the heading, "The Physical Chemical Systems," covers vegetative or visceral neurology and the endocrinopathies. Part three on the sensorimotor systems covers the cranial nerves, affections of the peripheral neurons, lesions of the spinal cord, lesions of the midbrain, cerebellar syndromes, diseases of the meninges, neuro-syphilis, and diseases and tumors of the brain. Part four on psychical or symbolical symptoms covers psycho-neuroses and actual neuroses, epilepsy and the different degrees of feeblemindedness.

This work is a textbook which covers the field of neurology most thoroughly and carefully and goes into the subject of psychiatry as fully as any student not specializing in the subject would require. It is wonderfully illustrated with new and original diagrams and the whole work gives evidence of the thoroughness of the medical literature for which in the past years we have been indebted to these brilliant authors.

The Autonomic Functions and the Personality. By Edward J. Kempf, M. D. 155 pages. Washington: Nervous and Mental Disease Publishing Co. 1918. Paper, $2.00.

This is Number 28 of the Nervous and Mental Disease monograph series edited by Jelliffe and White. Doctor Edward J. Kempf, the author, has been associated with Doctor White at St. Elizabeth's Hospital, Washington, for some years. The work has been written to show how the autonomic apparatus dominates the organisms and that the affections have their origin in the peripheral functions of this apparatus. Unless the reader has an elementary knowledge of biology and psychology, some of the discussion will seem "far-fetched."

A study of Doctor Kempf's work will, however, be most illuminataing to the biologist, the physiologist, the psychologist, the psychiatrist, and the clinician, though many will not agree with him in his theory of the dynamic nature of the personality. This series of monographs has, however, blazed many a trail and no student of psychology and psychiatry can afford to be without these publications.

Outlines of Psychiatry. By William A. White, M. D. Seventh edition. 345 pages. Washington: Nervous and Mental Disease Publishing Co. 1919. Paper, $3.50.

In his introduction to the seventh edition of what has become without question the standard American work on psychiatry, Doctor White gives the following preface: "The changes in this edition have been with the main end in view of getting beyond the older, more static descriptive psychiatry and carrying the student further into the realm of the newer, more dynamic interpretative formulations as are consistent with the purposes of the book as a textbook having due regard for a size which I believe has been an element in its success."

For clearness and conciseness, White's "Outlines of Psychiatry" has always appealed to the reviewer as the ideal text, not only for the student but for service to the practicing psychiatrist as an outline with which to guide his work. No modern author on the subject has been able to equal White in painting his subject in clear tones and simple effects. In his "Outlines of Psychiatry," there is a certain directness and an avoidance of useless and meaningless phraseology which has always appealed to me. Unlike many works of this character, everything is so tersely told that not a single page or paragraph can be skipped in the reading.

It is a work which can be read and understood by the medical student or by the general practitioner and it is recommended to both, as well as to the specialist.

Mustard Gas Poisoning. By Warthin and Weller. 267 pages, 156 illustrations. 1919. St. Louis: C. V. Mosby Co. Cloth, $7.00.

This lengthy monograph constitutes a compilation of the literature and, more particularly, the results of personal observations, experimental and clinical, on the effects of dichlorethylsulphide. The experimental studies are exhaustive and in the main convincing, although the general utilization of experimental methods more closely approximating field conditions would have permitted better comparative deductions. The paucity of clinical material definitely detracts from the value of the contribution. Seven human gassed cases and one necropsy are scant material from which to draw conclusions. The analogy between experimental and clinical findings and the further comparison with the inadequate autopsy reports from overseas compensate in part for this deficiency.

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sion points to reduced resistance to subsequent infectious diseases. Particularly is the practitioner desirous of information regarding the altered resistance of pulmonary tissue. Twice the authors broach this subject, but merely to casually suggest possibilities. Naturally time and continued study of gassed individuals can alone develop this point.

The introductory remarks concerning the moral and psychologic aspects of the use or abuse of poison gas in warfare sound strangely foreign to a scientific treatise and the hackneyed reference to that too secret "American" gas strangely familiar. Public sentiment is fickle. Already Parsifal is being played in London and New York. It remains to be seen whether or not the authors of that veil of horror, Nernst and his kith, will be reinstated in the favor of scientific groups of the Allied nations.

The subject matter of the text is well handled, if somewhat tediously. Reiteration at times endangers the reader's interest. The small amount of clinical material has been carefully worked up and co-ordinated to an advantage, which might readily be lost in larger series. Were the sequelae more carefully considered, the usefulness of this contribution would be greatly enhanced.

—W. S. M.

The After Treatment of Surgical Patients. By Willard Bartlett, A. M., M. D., F. A. C. S., and Collaborators, two volumes, with two hundred twenty-two original illustrations and one color plate. C. V. Mosby Company, St. Louis. Price, $10.00.

Dr. Bartlett and his collaborators have done unusually well in bringing these volumes on the after treatment of surgical patients to the Medical and Surgical profession. They deal with a vast number of subjects and conditions that will no doubt be of considerable value to the older, as well as to the younger members of the profession. The authors really have exceeded their assignments as indicated by the title of these volumes because there are found many facts and illustrations in them concerning surgical treatment and procedures as well as post-operative treatment.

The Chapters are filled with interesting and detailed illustrations without overburdening the book with too many. At the end of each chapter there is a fairly complete bibliography that furnishes ready reference for detailed information on certain points.

We would recommend this work not only for Physicians and Surgeons, but also for Internes and Senior Medical Students as valuable additions to their libraries. The books are very well gotten up, good paper is used and the binding is very neat and substantial.

—F. B. M.

Bedelia: Phat are yez doin' takin' the lock off the cupboard dure, Pat. Are yez chrazy?

Pat: No, darlint the dochtor tould me today that I must quit boltin' me food—and I'm goin' to obey insthructions.

The teacher asked: "When did Moses live?"

After the silence had become painful she ordered: "Open your Old Testaments. What does it say there?"

A boy answered: "Moses, 4,000."

"Now," said the teacher, "why didn't you know when Moses lived?"

"Well," replied the boy, "I thought it was his telephone number."

MY PRAYER.

O Lord! I acknowledge Thy existence—also the existence of a whole lot of other things, more or less godly, and which I can overcome only by the help of my own backbone. I fully realize that on every hand are invisible forces that seek my destruction, and that, if I am to come through unscathed, I must fight every inch of the way.

Give me strength to lightly bear my burden of living, and to smile until my burden becomes a joy, for, verily, this is the secret of all earthly gladness.

Teach me that sixty minutes make one hour, sixteen ounces one pound and one hundred cents one dollar.

Help me to live so that I can lie down at night with a clear conscience, and without a gun under my pillow, and unhaunted by the faces of those to whom I might have brought pain.

Grant, I beseech Thee, that I may earn my meal ticket on the square, and, in the doing thereof may I not stick the gaff where it does not belong.

Deafen me to the jingle of tainted money.

Blind me to the faults of the other fellow—but reveal to me mine own.

Guide me so that each night when I look across the dinner table at the wife, who has been to me a blessing, I will have nothing to conceal.

Keep me young enough to laugh with my children and to lose myself in their play.

And then—

When there comes the smell of flowers—and the tread of soft steps—and the crunching of the hearse's wheels in the gravel out in front of my place—make the ceremony short and the epitaph simple—

"Here lies a man!"

The Wisconsin Medical Journal

Volume XVIII | Milwaukee, May, 1920 | Number 12

ORIGINAL ARTICLES

ADDRESS IN MEDICINE.
INFLUENZA AT BASE HOSPITAL 22.*

BY ROBERT CURTIS BROWN, M. D.,

MILWAUKEE.

In awarding me the honor of delivering the Address in Medicine to the general sessions of the State Medical Society at this, the victory meeting, I believe it was the intent of the program committee to hear something from the *medical side* of the A. E. F., rather than the usual weighty address in medicine. I have accordingly chosen for my subject that very important part of the medical work in which we medical men of Base Hospital 22 were engaged,—The Epidemic of Influenza and Pneumonia.

I realize that an enormous amount of literature has appeared on this subject, after reading which, I confess that I am rather more confused, especially concerning the etiology of the epidemic, than before.

I will, however, endeavor to give you an account of our very considerable experience with the disease, and make such observations as occurred to me during the epidemic, the importance of which, I leave entirely to your consideration.

LOCAL EPIDEMIC.

In September, four cases of fever were admitted to the hospital from a Portuguese labor battalion, which was working in the hospital center. Cultures from the blood of these patients were negative for typhoid and malaria except in the case of one who was a French civilian and whose blood was found to contain the plasmodium of malaria. He was removed to a hospital ward. As the others were found to have come recently from Spain, and as their blood counts showed a leukopenia, they were reported to the base surgeon as possible cases of Spanish flu.

These cases developed bronchopneumonia and one of them died. In all we had about a dozen cases from the labor battalion. All these cases were isolated in small tropical tents which we had prepared previously for the isolation of contagious diseases.

Fortunately at this time the influenza was completely isolated and did not extend to the rest of the hospital. Our neighbor, base hospital 114, was not so fortunate in this respect as the influenza spread through their hospital from a number of cases which they received from the same labor battalion.

About three weeks later the influenza broke out in Camp Genicourt, situated several miles from our hospital, and as they had no facilities for coping with the condition, we received large numbers of influenza patients from that camp.

These patients were received in isolation tents, which were erected to meet the situation.

Besides erecting isolation tents, the administration building, surgical building, and several wards of an unoccupied hospital unit were prepared as pneumonia wards, and as far as possible, our pneumonia patients were transferred to these buildings, where they could receive better care.

It was unfortunate that the influenza epidemic was at its height when the American troops were preparing for, and executing their great drives. As a consequence, the hospitals at the front were being evacuated as rapidly as possible to make room for the expected wounded, and every man who could possibly be removed was sent to the base hospitals in the rear.

From the large convoys which came in daily on hospital trains, (sometimes as many as five trains came in a day) our hospital grew with astonishing rapidity and the medical side increased from a few hundred patients to over 3,000 in three weeks. At one time there was not an available hospital bed in France. At that time our hospital, in its combined surgical and medical wards, was taking care of over 5,000 patients. However, in response to urgent telegrams from headquarters asking us to increase our capacity still further, even if we did nothing more than provide shelter

*Read before State Medical Society of Wisconsin, Milwaukee, Oct. 2nd, 1919.

and food, we agreed to care for 7,000 patients. Happily, the signing of the armistice made this unnecessary but I have no doubt that we could have done it.

One must bear in mind the fact that in order to accommodate the increased number of patients, we not only had to provide and erect a large number of tents and take over partly completed and unoccupied units, but we had to evacuate the convalescent patients from our own hospital as rapidly as possible.

Our medical staff consisted of five medical officers. In spite of urgent appeals for more medical men, none were sent us, but two convalescent officers who were medical men volunteered their services.

Our nursing staff had been very much depleted after the arrival of our hospital in Bordeaux, and when we needed nurses most badly it was very difficult to get them back. Our nursing staff numbered about sixty at the height of the epidemic, but on account of illness and urgent demands on the surgical side, hardly more than twenty regular nurses were available for the medical side. These nurses were delegated to the most important wards, and we succeeded in having the best nursing service in the pneumonia wards. As an illustration of how short we were of medical officers and nurses I may say that one entire hospital unit of 1,500 patients was in charge of one medical officer, two nurses, and one regular ward master. Our personnel was supplemented from ambulance companies attached to the hospital, French nurse aides, convalescent patients, dough boys, and convalescents, besides German prisoners, of whom we had a large number. The efficient work these untrained men did under the direction of our own ward masters and nurses was wonderful. Although all that was asked of us was to give this enormous number of patients food and a place to sleep, they got much more, and the sickest got very good medical attention and nursing.

Our pneumonia patients had especially good care and attention. We had about 2,000 cases of influenza of which 600 or 30 per cent were diagnosed pneumonia. I believe that is about one-half of the cases which really had pneumonia. Base hospital 6, of which Major Richard Cabot of Boston was chief of medical service, reported 50% of influenza cases as having a complicating pneumonia. As he said, the diagnosis depended upon the ability of the man to make it.

The question of the number of pneumonia cases reported, has an important bearing on the mortality rate, which I will speak of later.

DIAGNOSIS.

I was very much interested in the early diagnosis of pneumonia, which was especially important in our hospital, because the patients could receive proper nursing and treatment much earlier if a diagnosis was made early. It was hard at first to get physicians to make an early diagnosis of pneumonia as they were naturally looking for the usual signs, which were not present in these cases. A patient might have a well developed bronchopneumonia, with a temperature not over 102°, with a slow pulse, natural breathing rate, and none of the usual physical signs. In fact, one or two of our first cases came to post mortem without a correct diagnosis having been made.

My previous experience with the bronchopneumonia at the Milwaukee Children's Hospital, was of great service to me.

Some of the signs were easy to make out, and diagnosis was often made by our dough boys. The high temperature, the herpes on the lips, the large amount of watery sputum, tinged with blood, the nose bleed, and the cyanosis, were unmistakable signs.

An early diagnosis was, however, extremely difficult to make and the signs could be elicited only by one who was trained to look for them. The very earliest physical sign, which I always looked for, was the localized crepitant rale. If the patient was turned over, and the intra scapular region and that portion of the lung between the angle of the scapula and the base carefully examined with the stethoscope, a crepitant rale could be found on deep inspiration very early in the disease. Sometimes this was found first in the front. The sign could be found in many cases long before there was any other evidence of pneumonia. And the fact that the patients recovered without the pneumonia giving any other physical signs, convinced me that many cases of pneumonia were aborted before many of the lobules of the lung were affected.

LABORATORY.

The work done by our laboratory and that of the hospital center was very efficient, especially under the circumstances. The disease was studied bacteriologically, blood counts were made in a ma-

jority of cases, and a thorough post mortem was made in every case of death.

The post mortem revealed the cause of the absence of physical signs. Even in the most extensive pneumonias, there was a good deal of air left in the lung. The germ had an especial predilection for the lower respiratory tract. There were no complications of the upper respiratory tract which were so constant in the epidemic of '89. The first process seemed to be a hemorrhagic inflammation followed by an excessive serous exudation. The lower trachea and bronchi were red and congested. There were all stages of pneumonic process in the various lobules of the lung, some recent, and some old, and all stages of both red and grey hepatization. It was indeed the typical bronchopneumonia, the process dying down in one part of the lung and lighting up in another part. There was a conspicuous absence of pus, but a great deal of fluid, and the lung was very wet. The appearance of the lung seemed to confirm the fact which was observed clinically, that the majority of fatal cases died of oedema of the lung.

COURSE OF DISEASE.

The influenza pneumonia was very insidious in the beginning, but very rapidly fatal after a certain point was reached. The severity of the disease in contra distinction to lobar pneumonia seemed to depend upon the amount of lung affected, and the amount of breathing room left, rather than upon the virulence of the infection. The blood was very poorly oxygenated, thick and dark colored, and did not run freely when venesection was performed.

The patients were apathetic and did not seem to be conscious of the severity of their illness. In fatal cases, there was euphoria and the patient would say he was "all right", a few hours before his death.

Convalescence was extremely rapid and even the boys who had been desperately ill would be begging for their clothes a few days later.

There were no complications, and none of our bronchopneumonias developed empyema or other pus conditions. We had several lobar pneumonias which developed empyema, but the whole course as well as the blood picture of the lobar pneumonias was different from the bronchopneumonias, and the cases of lobar pneumonia which followed the influenza were I believe true complications with a pneumococcus, or streptococcus haemolyticus.

ETIOLOGY.

The question of etiology is most perplexing. I am well aware that some of the best authorities believe that the influenza bacillus, the pneumococcus, and streptococcus haemolyticus are secondary invaders and the bronchopneumonia a true complication.

Very early in our experience with the disease, I took the position that in the influenza and the pneumonia, we were dealing with a single causal factor. Blood counts were taken in all cases, and very soon we found that we were dealing with a disease associated with a leucopenia, and that the leucopenia persisted, although the patient developed a pneumonia.

This showed at once that we did not have a pneumococcus infection, which is always associated with a leucocytosis.

My belief from the first was that the bronchopneumonia as well as the influenza was caused by the influenza bacillus, and that they were the primary invaders. This seemed to be confirmed by our post mortem findings, for in a large series of cases, where a culture was taken from a stab wound in the lung, the surface of the lung having been previously seared, the influenza bacillus was found in the majority of cases. The fact that the streptococcus haemolyticus was found in the secretions of the nose and throat, proved to be of no importance as we found it in over 50% of our entire personnel who were otherwise normal.

MORTALITY.

As all fatal cases died of pneumonia, the percentage of pneumonia cases reported would make a decided difference in the mortality rate. We reported 30% of our cases as having acquired pneumonia. This was about the average for the A. E. F. The incidence of pneumonia on the famous Transport 56 was 29%. That for all the Americans having influenza in England was 30%. Base hospital 6 in Bordeaux reported 50% of their influenza cases as having pneumonia. This was undoubtedly nearer correct and due to better diagnosis.

The mortality rate in the A. E. F. varied considerably in the different camps and hospitals, and the great difference in the mortality rate is very hard to understand. Base hospital 3, one of our neighbors, reported 40% mortality. Base hospital 6 in Bordeaux reported 30%. If we had reported the same percentage of pneumonia as Base 6, namely

50%, our mortality rate would have been 11%. The report of the base surgeon, based upon an incidence of 30% pneumonias, shows our mortality was 19%. This mortality was the lowest reported in our base section, and the lowest of any reported in France.

Most of the cases of influenza in our hospital were imported, having been brought from camps and in convoys from evacuation hospitals and from the front. Our personnel did not suffer greatly. Our officers were almost immune, and none were sick in the hospital. There were about 40 cases of influenza among our enlisted men, with no deaths. Our nurses suffered most. About 20% had influenza, and one nurse died, the only death in France among our original personnel.

It was a noteworthy fact that there were only six deaths from pneumonia among the some 2,000 surgical cases in the hospital.

TREATMENT.

I believe that the most important part of the treatment of the bronchopneumonia is prophylactic. All influenza patients should be treated as if they were possible if not probable cases of pneumonia and put to bed and kept warm. For a long time I have treated infections with bicarbonate of soda for the purpose of keeping up the alkaline reserve.

It is a well established fact that the tissues of the body are more susceptible to infection if their alkalinity is diminished. In pneumonia especially there is a tendency to acidosis.

It seemed to me in studying the pathogeny of the disease that the most important factor of the disease was the serous exudation which rapidly took place in the lung, filling the air spaces of the lobules of the lung.

The disease ran a mild course if this serous exudation was confined to a small portion of the lung and there were no physical signs except the fine crepitant rale of the wet lung. In the fatal cases it seemed to me that most of the air spaces were flooded with water and the patients died of air hunger. This fluid exudation was a reaction of nature to rid the lung of the infection and like all natures reactions was often carried too far.

Bearing these facts in mind the treatment was directed with a view to limiting, if possible, this serous exudation. The medical treatment consisted therefore in addition to the bicarbonate of soda in inducing active catharsis and diaphoresis. The patients were given dovers powders and acetosalicylic acid and warmly covered up.

Digitalis was given in some cases but I do not think that heart stimulants were of any value. The heart muscle was regularly found to be in good condition at post mortem. Death did not seem to be due to the weak heart but the inability of the blood to get oxygen. With a few patients venesection was tried. The temperature always fell immediately and in some cases did not return, at any rate not so high as before. I believe venesection is of value if done early.

Isolation was attempted, but hardly effective. It was not practical to remove the surgical cases from their wards on account of the dressings, and these patients were isolated with cubicles.

It seemed hopeless to me to isolate the pneumonias, if the influenzas could not be isolated, as they were one and the same disease. Practically, however, our pneumonias were isolated for the reason that in pneumonia wards they could be better cared for.

IMMUNITY.

The relative immunity of our personnel is hard to account for. One reason may be that they were for the most part city bred and so had been more exposed to infections. Some physicians thought that the mild intestinal epidemic through which they had all recently passed, conferred some immunity.

The low mortality rate among the personnel was due, I believe, to the fact that they were commanded to report to the hospital on the first intimation that they were ill.

It is a noteworthy fact that the nurse who died, failed to report her illness, although she knew that she was sick for several days before she reported, and had been doing duty in the pneumonia ward with a temperature over 102°.

TRIBUTE.

I cannot refrain from taking this opportunity of expressing my appreciation of the excellent service rendered by my assisting medical staff. They were certainly overworked. It may give you an idea of what our small staff had to contend with, to say that Major Lademan had at one time 900 patients; Lieutenant Sivyer had several hundred very sick influenza and pneumonia patients, and the record of Capt. Eagan, who had in his charge an entire hospital unit of 1,500 patients, was prob-

ably not equalled in the A. E. F. The only other assistance we had besides that of Lieutenant Wilderman, whose work was mainly confined to the Chinese labor battalion, was given by two convalescent medical officers who volunteered their services.

Probably no hospital had such a fine body of enlisted men, and if it were not for their superior intelligence and cooperation, no officer, no matter how capable, could have handled the situation. We did, however, have an unusual commanding officer, Major Gore, and to him most of the credit is probably due. His very name spelled efficiency. He foresaw every emergency, got work accomplished and supplies on hand, and was the driving force of the organization.

We were often in a position to give assistance to other hospitals, and even at the time of our greatest stress, officers, nurses, and men were taken from us. Our entire telephone equipment was commandeered for use at the front.

But most of all, our nurses are entitled to especial commendation. They worked the hardest and suffered the most from the epidemic. Many of them were severely sick with pneumonia, and one died. That young woman, Miss Kimbal, whom we buried in France, as truly gave her life, gloriously, in the service of her country, as did any brave soldier who lost his life on the fighting front.

CHAIRMAN'S ADDRESS.
TO THE MEMBERS OF THE SECTION ON INTERNAL MEDICINE OF THE STATE MEDICAL SOCIETY.

BY L. F. JERMAIN, M. D.,

MILWAUKEE.

Gentlemen:—

Prior to our entrance into the world war medical officers of the army and navy were usually regarded as surgeons, and internal medicine had never been accorded recognition, either in base or field hospitals. With the organization of the Red Cross base hospitals in 1917 an internal medical service was established in each of these hospitals, and the same plan was later followed by the evacuation, field and mobile hospitals.

In the Surgeon General's office a division of internal medicine was organized with sub-divisions for tuberculosis, cardio-vascular and gastro-intestinal diseases. The character and standing of the internists selected for assignment to these various duties were such as to inspire confidence and a sense of security regarding the future health of the army. Thus it may be stated that internal medicine has finally come into its own, and when the medical history of the war is recorded the internist will be found to share equally with the surgeon the glory of achievement.

The war has taught the members of the medical profession many valuable lessons, it has brought home to them very forcibly the absolute necessity of keeping abreast of the advancements in their chosen profession through constant study and interchange of medical thought and experience, and the necessity of guarding against professional retrogression by the industrious pursuit of scientific medicine after graduation.

It has impressed upon them the immensity of medical knowledge and the impossibility of any ordinary human mind grasping it all. In the army the individual medical man was but a cog in a great wheel. His was but a small part of the whole problem, but he was expected to play his part well, and thus contribute to the fullest extent to the success of the whole.

The necessity of specialization and of group practice has developed into a firm conviction in the minds of a majority of the returning medical officers. Most of them are very loath to return to their former individual practices, many have embraced the opportunity to enter special lines of medical work and all of them crave association, cooperation and the consciousness of thorough scientific work, possible only in groups of specialists working harmoniously to secure the highest type of service for suffering humanity. "Group practice" seems, therefore, to have received a decided impetus as one of the developments of the war.

Another lesson learned thru experience in the war is the importance of preventive medicine. For the first time in the history of warfare, excepting the Japanese-Russian conflict, the death rate of soldiers from disease has been less than that from wounds received in action. General Munson in an address before the Council on Medical Education made the statement that it was found that the average physician knew very little of preventive medicine and that preventive medicine, hygiene and sanitation should be given a far more prominent place in the curriculum of medical schools. Furthermore, it was shown that a very

large proportion of alleged specialists were found, upon examination, to be poorly qualified and that a large percentage, in one specialty as high as 70%, had to be rejected for incompetence.

In this connection it may be interesting to note that of the graduates of a leading medical school only a very small percentage expressed a preference for internal medicine in their applications for commissions in the Medical Reserve Corps, but that on further investigation these were found to represent the best students in the school, a class which deemed the higher attainments of diagnosis as their particular desire and function.

The time has arrived when American research in medicine must and will be recognized the world over. This should be particularly so of research in clinical medicine. In order to accomplish this much desired result two steps are absolutely necessary: First, the hospitalization of internal medical cases to a far greater extent than ever before, and second, greater opportunity for post-mortem examinations. This can be realized only by a campaign of education, primarily among the medical profession, and secondarily the laity and law makers. Hospitalization of medical cases will require an enormous increase in the number of hospitals and hospital beds in the United States, particularly such as are open to the poor and within the means of those of small and moderate incomes.

It is in the hospital where ideal conditions for the best medical service obtains and it is only in the hospital with proper equipment and well organized staffs where such medical problems as await solution may be successfully attacked.

Such sentimental and legal barriers to post-mortem examinations as exist must be strenuously combatted. Improvement in clinical medicine must be along the lines of exact clinical study and diagnosis, which can be controlled only by careful post-mortem examinations. According to a report of the committee of the New York Academy of Medicine, made in 1914, the percentage of autopsies in a selected series of large hospitals in the United States as compared with the total number of deaths in these institutions was but one-eighth of that in Canada, Great Britain, Austria and Germany. The public and legislators must be educated as to the value of necropsies to the public health and for the purpose of obtaining accurate vital statistics. The necessity for written permission to perform autopsies should be obviated, and the family should be given confidential information as to the conditions disclosed by autopsy. Here again the medical profession is derelict in the performance of its duty to science and humanity. A correct attitude, coupled with sound argument and proper persuasion on the part of the attending physician, will secure many autopsies which otherwise would not be granted.

If clinical research in this country is ever to take its place with laboratory research much must be done in the directions enumerated, and here again the returning medical officer with his viewpoint broadened and a scientific research spirit instilled by his experience and associations in the war, can be of inestimable aid. As General Munson has well said, "The eyes of the medical profession were opened to many shortcomings of the profession as a whole, and it is safe to assume that their military experience has shaken them out of complacency and given them new ideals and broader purposes. One of the results of the war will be a better and more competent medical profession, the members of which will look to the medical educators of the country to set high ideals and provide the facilities for their attainment."

WAR PSYCHONEUROSIS.*

BY W. F. LORENZ, M. D.,
MENDOTA.

The war neurosis is as new to warfare as gas shells, aerial torpedoes, tanks and submarines. Yet we are told that none of these latter are really new. That in some form or other, as far as scientific achievement allowed at the time, practically all forms of attack that appeared during this war are old as history. The same applies to the war neurosis. While never before identified with war, at least in such numbers as to attract attention, similar psychic disturbances have probably existed in the human race since the time social development first appeared.

The question that obviously occurs to everyone is why should so-called shell-shock be such a frequent type of casualty in this war when practically never heard of in former wars. If this psychic disturbance is a manifestation of hysteria, as maintained by some, then it must follow that no hysteria existed during the time of previous wars and that this condition is alarmingly present today. This hardly seems reasonable. If the war psychoses are based upon an expression of mental inferiority

*Read before the Medical Section State Medical Society of Wisconsin, Milwaukee, Oct. 2, 1919.

alone, it does not seem probable that no such mentally enfeebled individual took part in former wars, nor does it seem probable that in the United States from the time of the Civil War to that of the last, there should have developed this type of inferiority without any manifestation of it during the former war. To attempt an explanation on the basis of difference in individuals concerned at these two epochs, meets with still less success when one considers that during this war, probably the first time in the history of warfare, an attempt was made to withhold from military service men who seemed unfitted because of psychosis, neurosis, or inferiority.

Yet despite these safeguards, a large number of casualties developed in all the armies at the front. A casualty which was produced without physical injury, manifesting itself as a psychoneurosis and popularly called shell-shock. Assuming from what has already been said that any difference in the type of man of today from that of 50 years ago cannot account for this mental breakdown, the explanation must be sought elsewhere. The most striking difference between the late war and that of former years lies in artillery as a weapon. It seems to the writer that the extensive employment of this highly developed weapon accounts for this new type of war casualty. The nature of artillery warfare with its modern long range, hurling missile that comes from an unseen enemy miles and miles away, with a suddenness that allows no time for shelter and a destructiveness that bars description, with its attendant terrific explosion and the feeling of absolute helplessness on the part of those fired upon, is decidedly new in the history of warfare. The fact that the foe cannot be seen, cannot be grappled with, offering no chance to directly vent the feelings that have been aroused is the condition that the writer wishes to emphasize. Another condition of warfare that has a bearing upon the development of these mental states was probably extreme during this war as compared with former wars. Reference is here made to the fearful conditions under which the troops had to exist while at the front and for periods of weeks at a time.

An interesting bearing on this point is the behavior of our colored troops in France. It is probably no state secret that these troops were not as successful as in former wars. Here again the difference in the type of warfare must be considered. In a hand-to-hand clash or opposing infantry duel with an enemy in sight, a visible goal, a something upon which your own means of destruction could be exercised, in this type of warfare the negro usually proved to be a good soldier, but to stand up under the terrific death dealing shells of an enemy out of sight and hearing, calls for a degree of courage, coupled with intelligence and high order of social obligation that is probably far beyond the negro mind. It will be recalled that the average adult negro intelligence is that of a 10-year old child.

There are certain general considerations in the development of the war psychoneurosis that must be considered. The most striking one without doubt is that this type of casualty was never seen in a wounded soldier. Nor was it ever observed among prisoners of war. An explanation for this will appear later. The next important observation is that a large percentage of these cases in which data was available, showed a defective nervous heredity. These two observations stand out in the reports of all those who have written on this subject. In other words a pre-disposition seems to be required. Another interesting point is that this type of casualty occasionally developed in a soldier while in the process of reaching the zone of danger, when in fact not yet in actual danger but progressing toward it. Contrast this observation with the utter absence of this type of casualty in a prisoner, whose progress, however, it will be noted, is away from the danger zone.

This brings us to the point of describing the disorder itself. Its manifestations are varied, most common is a condition of tremor. This may be very extensive involving almost the entire voluntary musculature and of a very severe grade or it may be slight in extent and mild in its manifestations. Next in frequency is a condition of clouded consciousness, also varying in degree, ranging from profound stuporous states to mere haziness and uncertainty of whereabouts. Anxiety states are also frequent. Very often this condition immediately follows a period of disturbed consciousness. In this condition of anxiety the patient may show signs of extreme fear. He may attempt to run away, or he may wander aimlessly about looking furtively in all directions, crouching behind obstacles, crawling into shell holes, becoming violently agitated from sudden noises of any character. Not infrequently they whimper and cry, remain mute when spoken to and generally offer a picture of ab-

ject terror. Their response to shell fire is particularly marked. Violent tremor, sudden spasm, following upon such fire was used in fact as a rough means of diagnosis, in differentiating the true psychoneurosis from a case that was malingering. Some may pass directly from the clouded state to a condition of profound delirium in which vivid auditory and visual hallucinations of a terrifying nature are prominent. In all of these conditions there may follow a period in which memory for recent happenings is lost. Associated with this there may be difficulty in thinking and marked depression.

Purely functional disturbance is also very frequent. This disturbance may be encountered in any field. Aphonia was especially frequent. Paralysis of all kinds and gait disturbances, particularly associated with tremor was a common picture. Likewise disturbances of viseral, sensory, and circulatory functions were seen. These hysteroid reactions are of course not new or unusual in our civil experience. It is this type of psychogenetic disorder which was referred to in the beginning as probably existing with the race since the time of social development. In other words since that time, trends or motives with high emotional value developed which opposed the full play of our instinctive tendencies. This type of mental disorder has of late years been better understood because of the work of Freud and his followers.

Considering the wide range in the clinical manifestations, and the many cases of almost instantaneous cure, it is impossible to describe an organic lesion that could be responsible. Furthermore the utter absence of such manifestations in those actually suffering from severe truma of the brain or other neural structures bears upon this point. It follows then that the symptoms are a disturbance of mental function. This view that the war psychoneurosis is of psychic origin is conceded by practically every neurologist of note.

All of us have powerful instinctive tendencies. The two most primitive and associated with profound emotions, are those of self-preservation and procreation. Both develop naturally, that is are innate and not a social development. The very existence of our race depends upon these primitive instincts. Any experience that attempts to clash with these will liberate a tremendous flow of emotion. Thus fear of death is accompanied by great emotion. War means death and a soldier who proceeds to the front must entertain that possibility. He must also overcome the instinctive tendency to preserve life by remaining safely in the rear. In this process of overcoming that which is instinctive he calls upon his volition and uses for support his sense of obligation to duty or country or his desire to retain the good esteem of fellow men. In other words to overcome the primitive and all powerful instinct, he calls upon factors that are of comparatively late development in the human mind, factors that depend upon social development and whose employment necessitates a certain degree of intelligence. These feelings of self-esteem, the regard in which we are held by others, also have high emotional value. Yet in war these feelings must strive with the instinctive ones in order that one may will to go on. Thus a clashing of mental trends occurs, both trends accompanied by great emotion and given a proper setting in individuals of a certain type, the older instinctive trend comes out victorious. In order to better illustrate these contending forces, a case during the process of development will be described:

Imagine a young man who as war seems imminent pictures himself as an object of scorn by his fellow men unless he plays the part of a man and shoulders his share of the burden, or we may even assume that it required no such urging but merely as a sense of duty to his country, he elects to go along. At this time he has no clear conception of war and its horrors. If momentarily such pictures do arise he pushes them aside as disagreeable. The actual battle is still far away and if he dwells upon this at all he may satisfy himself at the time with the thought that there is an excellent chance of his escaping without injury. In any event his feeling for self-preservation has not yet been seriously assailed. The later acquired social feelings predominate. As he proceeds in the process of training the nature of warfare is brought home to him; the matter of death is brought more and more to his notice. Fear of such result may now be dwelt upon more frequently, yet in the absence of actual danger he continues supported by the motives already mentioned. Or again, he may push the entire disagreeable picture from his mind, a mental trick that is really not very successful since the displacement is merely out of consciousness, the image lurks in the sub-conscious mind ready at a moment's notice to come back with great emotional disturbance when the inhibition which holds it from consciousness ceases to operate.

In this state of opposed feelings he continues forward. As he progresses, the horrors of war are brought more and more to his notice and his feeling of self-preservation is more and more assailed. He may see dead and wounded and picture himself as one of these unfortunates. Yet in the face of this he continues, and very likely at this time he is suffering great physical discomfort. Hunger, loss of sleep, and great fatigue further tend to weaken the inhibition exercised over the tendencies to self-preservation. Possibly at this time he is under direct shell fire and death seems a near neighbor. Suddenly an unusually close explosion or any other frightening accident may result in tremendous terror. With this there is possibly a moment of unconsciousness. At such moment the inhibiting influences that submerged instinctive tendencies are brushed aside and the fear of death reigns supreme. At this moment there is probably a great tenseness of muscles, as a consequence any muscular movement attempted may be tremulous because of spasm or not performed at all. This state of disability is flashed into consciousness and accepted at once as an injury. At the same time there is a realization that life is still present. Injury means inability to go on and is welcomed as a means of escape from this distressing situation. Injury means an honorable departure from this scene of horror, thus permits compliance with the powerful instinct of self-preservation which now no longer needs to be inhibited. The mental relief at this turn of events must be great. It means that all further strife with the instinctive is over. That the powerful inhibitions that were necessary need no longer be called upon. The tremor, spasm of limb, or speechlessness must be fixed and permanent in order to be effective. The continuance of such a disability is a pleasant solution and the mind holds tenaciously to this. The frequent picture of clouding of consciousness is probably the result of a desire to crowd out of mind the entire happening and an unwillingness to consciously entertain such very disagreeable experiences.

The actual mechanism is probably not as simple as this illustration pictures. Yet it may serve to show how after a variable period of preparation for breakdown a moment occurs when the strife is suddenly over and a means of escape, mental escape, from a harassing situation is open.

The question naturally arises, why doesn't every one develop a psychoneurosis under such conditions? The explanation offered is that although the same emotions associated with self-preservation are present, the inhibiting forces, those dependent upon self-esteem or sense of duty or whatever motive serves the individual to that end, has a greater value than the former.

To consider further the type of individual who develops a psychoneurosis under the conditions described, it is thought that the motives which inhibit the normal response to fear under the conditions of war, demand at least normal intelligence, since these motives arise from an appreciation of social obligations. It follows therefore that one who is lacking in intelligence is not likely to have available such support. On the contrary he is much more ready to be controlled by primitive instincts. One would therefore expect that mentally enfeebled individuals would be found especially frequent among the psychoneurotics. This has been found to be a fact. However, it must be understood that the enfeeblement need not be in the intellectual field alone, but failure to properly develop as a social element would be looked upon as a mental enfeeblement or inferiority.

It is thought that while this same type of individual probably existed in equal numbers during former wars, the conditions of warfare were different and as a consequence such breakdowns did not occur. Formerly the contending forces were in closer proximity. An opportunity to actually get at the enemy existed. In all probability during the present war, if the one in whom the breakdown was imminent were ordered at that time to charge, he would welcome such opportunity and probably do valorous deeds.

Another phase of this subject must not be forgotten. Unfortunately there are some who have viewed the psychoneurotic as a coward. There is nothing farther from the truth. This unfortunate individual showed in fact great bravery. By effort of will he inhibits the impulses of self-preservation up until a moment when his will no longer operates. During this process he has had to overcome very powerful emotion, and the motives that carry him on are of the highest order. Such conduct is certainly not that of a coward.

Bearing on the matter of a suitable soil, defective heredity or pre-disposition as necessary for the development of a psychoneurosis, I will quote some very interesting figures that were brought to my attention by Mr. Tappins, Secretary of the Board of Control. From the beginning of our

participation up to June 1, 1919, there were returned to Wisconsin from the U. S. army over 1,500 soldiers suffering from some nervous or mental disorder. These were almost entirely cases that were found unfit for service, that is, the condition existed at the time of entrance into service or manifested itself shortly after. Of this number 40 per cent were discharged as feebleminded, 30 per cent as insane, 30 per cent as nervous disease. There were approximately 100,000 soldiers recruited in Wisconsin. These figures give one an idea as to the number of nervous conditions in this age group for our state. It indicates that nervous and mental abnormalities are certainly quite prevalent. It can hardly be assumed that every case was withheld from service, that many got to the front is very likely, and that these individuals supplied the material for the development of a psychoneurosis is also extremely likely.

Reliable figures as to the actual number of casualties due to psychoneurosis will probably never be obtained. This statement is based upon personal experience which it is assumed, was no different from others doing similar service. During our first battle north of Chateau Thierry the number of cases evacuated as shell shock was very large. As we gained in experience it soon became evident that many of these cases were incorrectly diagnosed. The majority were merely cases of great physical exhaustion. After rest and food the soldier would be perfectly well and anxious to return to his command. Yet the records will show such a case as a psychoneurosis and incidentally show it as an instance of prompt recovery. In our subsequent engagements such errors were less frequent although even then great care to discriminate between physical exhaustion and psychoneurosis could not be made. Those who experienced conditions behind a fighting division will readily understand how impossible it was to practice any refinement in diagnosis. One's attention was demanded by other types of casualties in which decision was a matter of life or death. As a consequence any soldier who appeared at all incapacitated, who seemed sick or unable to continue was quickly passed over and marked for evacuation to the rear.

That such practice was necessary in a triage will be appreciated when it is stated that during the progress of one battle over 700 wounded of all degrees were handled during a six hour period of one night. That on the average during three battles over 5,000 casualties would be handled during a period of approximately five days. During quieter moments more care was exercised and at such times a fair number of purely fatigue cases were rested, given some food and returned to their command.

This paper would be incomplete if it were not to touch upon the possible bearing that the war psychoses may have upon our subsequent civil life. In the first place we have in every state more mental conditions to care for. During the month of June there were over 4,000 cases of mental disease returned from the A. E. F. Every state will get its percentage of these and in addition it will have among its citizens many who developed a psychoneurosis but recovered. However, once having experienced a mental reaction of this kind toward a disagreeable situation, it will be an easy matter for the mind to react in the same fashion again under sufficiently provoking causes. It therefore seems likely that many mental cases of psychogenetic origin will develop in the future and every physician should be conversant with this type of disorder. It is thought that the mechanism of side stepping or finding a refuge in a psychosis or neurosis once having occurred will more readily recur. For the same reason greater care will probably need to be exercised in the admission of emigrants. A European who once experienced a psychoneurosis arriving in this country and meeting with strange experiences, stress and difficulties is very likely to again respond with such a reaction, and as a consequence add to our already large load of public charges.

Lastly a matter not to be ignored, although not directly bearing upon the topic under discussion, is the large number of feeble-minded in this and probably every other state, who are at large; to marry and reproduce their kind and ever increase a heritage that we hand on to those who follow. It is thought that the state should assume the right to examine every case discharged from the federal army as unfit for service because of mental disease or mental inferiority and segregate the latter particularly if this condition is established as a fact.

DISCUSSION.

CHAIRMAN: The paper by Dr. Lorenz is open for general discussion.

DR. G. E. SEAMAN, Milwaukee: Mr. Chairman and Gentlemen. I want to compliment Dr. Lorenz on what

I consider to be certainly the very best analysis of this condition with which I am familiar. The term "shell-shock" Dr. Lorenz is warranted in using at this time. It is not a term however, and I am sure Dr. Lorenz agrees with that distinctly, that the medical profession should continue, especially if we are going to have another war. It was a very unfortunate term. The British originated it, I believe. It became a very common thing among the men to discuss this question of shell-shock. It is altogether too easy a term. It gives too wide a play to the imagination, and that fact accounts, I am sure, for a large number of cases that got back to the field hospitals, and perhaps still further back.

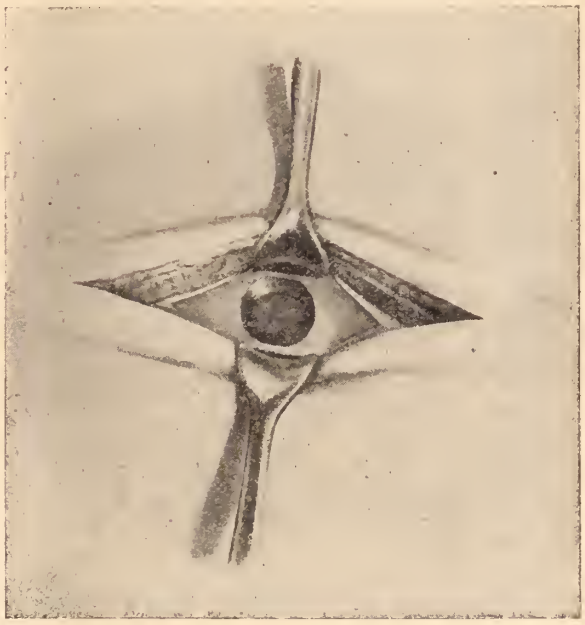
As Dr. Lorenz has said, in the battles in which the Thirty-second Division was engaged, we had a very large number in the beginning. At the second battle of the Marne we had more than 500, I believe. Many of these cases were mere cases of exhaustion; many of them responded to food and rest and encouragement and good plain talk at the field hospitals, and were sent from there back to the front, and were fully capable of performing duty. Some others were pure cases of psychoneurosis, and had to be sent to the rear, and not many of those cases came back. Rather unfortunately, I think, too large a number were sent too far to the rear. It was suggested to the psychiatrists on duty early, that it would be well to keep those men as far to the front as possible, and I believe that was an element in getting a good many men back to their duty. In these cases of pure psychoneurosis there wasn't a very large element, as I remember it, of malingering. There was suggested a very large element of hysteria in many of these cases. I think from observations since I have returned home, and from what I have read of the situation in England, that these cases of so-called real neurosis, shell-shock, have been continued very largely and drawn out by the attention accorded to them by well-meaning philanthropic and sympathetic people at home. I have come in contact with a number of cases since I came home, that ought to be back at work, and who are continuing in this psychic condition by reason of sympathetic and well-meaning, but misdirected efforts of the laity at home. But the diminishing number of cases was the feature in these battles in which we were engaged. At the Marne we had more than 500 cases labelled "shell-shock" when they came in, all talking shell-shock. When they were asked what was the matter they would reply that they were shell-shocked. Of course it was easy to recognize that most of them were mere cases of exhaustion, and that they would be soon rested and fed up and be capable of performing duty. In the Argonne battle, during a long period in which there were several thousand American guns, and I do not know how many thousand French, we had just twenty cases that were diagnosed as shell-shock, as I remember it, out of about 7,000 casualties, showing of course the better recognition of the actual cases of shell-shock, and showing also that the men had gotten used to the situation and to the conditions, and did not re-act as they formerly had, but showing particularly, I think, a better recognition on the part of the medical officers, of what these cases really were. Of course before that time we had excluded the term "shell-shock" practically, so far as we could, and we had gotten a better organization for the selection and examination of cases.

A NEW OPERATION FOR PYOTHORAX; THE TREPHINE OPERATION.*

BY A. C. STRACHAUER, M. D., F. A. C. S.,

MINNEAPOLIS.

Empyema is a grave condition. The common pneumococcic variety has generally made primary



recoveries following nearly any type of thoracotomy. They have been followed, however, in large percentages by the secondary evil results of chronic suppurating cavities and sinuses demanding surgery of a heroic calibre. It is from these latter secondary conditions that the true mortality and morbidity rates must be calculated. Many of these cases "with just a discharging sinus" *and a cavity behind it,* after repeated operative efforts, or without the same, finally become worn out and die.

Empyema of streptococcic origin has always been attended by a certain primary mortality. The empyemata of our recent epidemic have had a shocking primary mortality both in civil and military practice. Undoubtedly, this mortality was due in great degree to the large percentage of streptococcic infections and to the character of

*Read before the Ninth Councilor District, Eau Claire, Wisconsin.

the antecedent or complicating primary illness. However, certain fundamentals of the physiology of respiration and the pathology of the disease

have been disregarded, which directly affected the morbidity and mortality.

The thoracic cavity is in a constant state of varying negative pressure. When the normal pleural sac is incised and left open, air enters from without, the lung in time collapses, and positive atmospheric pressure obtains, forcing the mediastinum over to the opposite side, thereby embarrassing both the respiration and the circulation. An acute open pneumothorax is a serious and major lesion, having a direct mortality even in the absence of infection, as has been attested in the recent war.

The same mechanical conditions obtain when an open thoracotomy is performed during the formative period of a streptococcic pyothorax, that is, before adhesions have formed between the pulmonary and parietal pleura, fastening the lung to the thoracic wall and so preventing its collapse and retraction. In many of these cases the shock of the hyper-acute pneumothorax, with the lung collapse, and the displaced fluttering mediastinum, resulted in an early and prompt death of the patient. The arduous and painful repeated aspiration was advocated to avoid the dreaded evil consequences of the pneumothorax. Pneumothorax is particularly hazardous in the presence of an unresolved pneumonia on the opposite side.

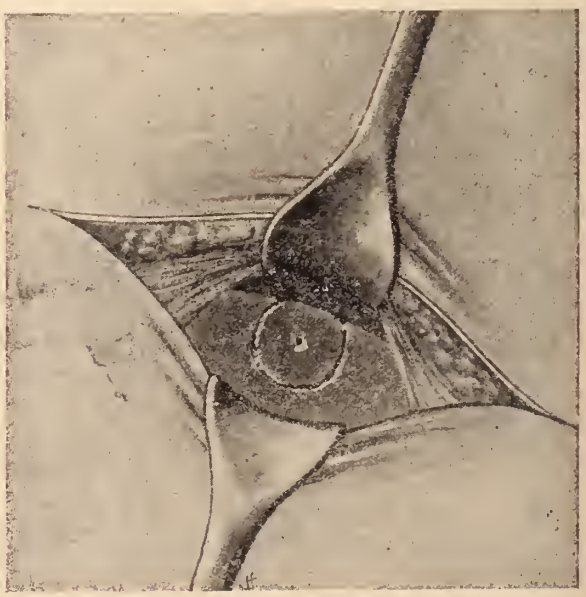
If the patient survives the immediate effect of the acute pneumothorax, the collapsed, retracted lung rapidly becomes adherent in its new location, usually high up in the thorax and close to the vertebral column. The visceral and parietal pleura becomes thickened and an enormous chronic suppurating cavity is formed, requiring multiple operations before a closure is effected. Not infrequently, surgery proves ineffectual.

Open thoracotomy in the walled off empyemata usually causes a certain degree of partial lung collapse in addition to the compression already present. As we well know, nature, surgery, or both, are frequently slow in obliterating the cavities so formed.

The primary operation for pyothorax should endeavor to provide for:

1. Adequate drainage; 2. Appropriate medication by irrigation; 3. Prevent the ingress of air and the attendant pneumothorax and cavity formation; 4. Provide negative pressure suction to thoroughly remove the discharges and aid in expanding the lung.

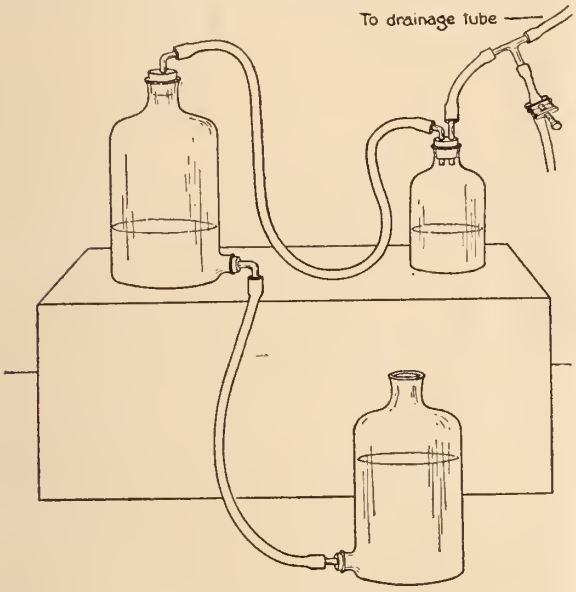
The following operation, consisting of the trephining of a rib, was first performed at the University Hospital, six years ago. It affords an airtight joint for the application of the continuous, even, negative pressure suction pump with provi-



sion for the Carrel-Dakin irrigation. The operation may be, and usually has been, performed under local anesthesia.

A short incision is made over and parallel to

the rib at the site selected for the drainage. This incision should not be made with the arm hyper-abducted, as the skin wound then will not overlie the rib without strain when the arm is brought down to the natural position of rest in bed. The periosteum of the rib is incised and separated only over the external surface. A button of bone is removed from the rib by a small crown trephine. When a small, narrow rib is encountered, it is advisable to remove the button from the upper portion of the rib, (as shown in Illustration 3), otherwise fracture of the rib may obtain. The posterior periosteum and pleura is incised by a crucial incision through the bone hole, and a stiff very snug fitting rubber drainage tube, the same size as the trephine, is inserted and forced into



the drainage opening, forming an air-tight joint. The tube just enters the pleural cavity, must not impinge upon the lung and is hugged by the natural elasticity of the periosteum and pleura. This joint is further reinforced by bringing the drainage tube through a small perforation in the center of a square of dental rubber dam, which is fastened to the surface of the skin by adhesive tape covering the edges, as shown in Figure 2. The position of the tube may be protected by placing a few turns of adhesive tape about it as it emerges from the rubber dam square, and fastening the same to the chest wall. The negative pressure and irrigation apparatus, as illustrated in Figure 4, is now attached to the drainage tube. All of the drainage is collected in the first bottle. Any degree of negative pressure desired can be obtained and is measured directly by the vertical distance between the water levels in the two large bottles. There is some advantage in having a mercury manometer attached, for occasionally the negative pressure is deceptive if a column of air should occupy a section of the tube connecting the bottles. When the water in the upper bottle has drained away, it is necessary only to change the stopper and reverse the position of the bottles. When all connections are good, the apparatus needs no adjustment and functions perfectly for days at a time.

The operation has the following advantages:

1. Trephining a rib is much more simple than resection of the same.
2. Mutilation, deformity, and spur formation with fixation to the adjoining ribs, is avoided.
3. Continuous, even negative pressure may be obtained, preventing pneumothorax and its attendant evils.
4. The negative pressure aids in the expansion of compressed lungs and cavity obliteration.
5. The function of all non-consolidated lung is conserved.
6. All discharges are collected in the receiving bottle, obviating the necessity of repeated dressings. This means much for the patient's comfort and cleanliness.
7. The suction prevents the accumulation and retention of pus in the pleural sac, and the absorption of the contained toxines.
8. The likelihood of introducing secondary infections is less than in open drainage.
9. Provision is made for the anti-germicidal and solvent action of the Carrel-Dakin irrigations.
10. When the infection has subsided and the pleural sac sterilized, a functionating lung capable of filling the thoracic cavity has been preserved.

THE NAUSEA AND VOMITING OF PREGNANCY.*

BY C. HENRY DAVIS, A. B., M. D.,

MILWAUKEE.

Only twenty-six of the writer's last one hundred obstetrical patients had no nausea or vomiting. Thirty had morning sickness, but little or no vomiting. Forty-four had both nausea and vomiting of sufficient degree to need treatment and of these nine required more than the usual simple management.

There is undoubtedly a disturbed metabolism with every pregnancy. Whether or not symptoms

result, depends apparently on the metabolic reaction of the patient and the presence of one or more of the conditions usually given as the cause of nausea and vomiting. In the study of each case the text-book causes should be kept in mind and when found, so far as possible, should be corrected as a part of the general treatment.

The following plan of treatment has given so much relief to patients that its trial is urged.

1. A carefully taken history will usually reveal any previous gastro-intestinal disturbance, nervous disorder, or other physical conditions which might make the patient more sensitive to the disturbed metabolism of pregnancy.

The physical examination will reveal any source of local irritation or infection. Drain the pus pockets or remove infected tonsils if necessary. Remove any source of infection found in teeth. Dental work must not be neglected during pregnancy. Try to correct a uterine displacement. Treat acute cervicitis when present. Any of these may tend to increase the nausea and vomiting of pregnancy, but should be regarded as predisposing rather than causative factors.

2. Put the patient to bed if the vomiting is severe. It may be sufficient to keep the milder cases in bed until one or two hours after breakfast, but when possible it is better to keep them there until noon.

3. Use an anti-acid dry type of diet such as is used in the nervous type of vomiting among the non-pregnant. Allow no liquid within the hour before meals or the first one and one-half hour after. The patient may have enough milk or thin cream to moisten her cereals but no other liquid. *This diet should be high in carbohydrates and low in fats and proteins.* Milk may be taken between meals.

4. At least three pints of water daily is given between meals. Alkaline water may be desirable. If the patient craves fruits try pineapple or orange juice.

5. Alkalinize the system by the use of alkaline water or sodium bicarbonate. From twenty to sixty grains of sodium bicarbonate t. i. d., taken midway between meals and at bed time may be needed for several days. After the urine becomes alkaline the dose is reduced to ten grains, *in tablet form,* t. i. d. If on subsequent tests the urine becomes too acid the dose is again increased. The alkaline treatment is continued throughout pregnancy.

6. Stomach lavage is at times needed. The simplest lavage is that of having the patient drink several glasses of tepid water each containing one-third teaspoonful baking soda. This, when vomited, washes the stomach effectively and with less irritation than the tube. Stomach tests are at times indicated.

7. Sodium bromide is of value in the cases not controlled by the simple change in diet and alkaline treatment. Ten to fifteen grains may be given in a little hot water thirty minutes to one hour before the taking of food. The effervescent triple bromide is perhaps better borne by the stomach. Cerium oxalate, two grains every half hour for three consecutive doses, is at times useful in cases of simple nausea, but of no value in the more severe. The use of cocaine is not favored even though good results have been reported.

8. Corpus luteum extract is administered hypodermatically when there is a history suggesting ovarian insufficiency, and in cases with a history of early abortions. Thus far the writer has seen little or no benefit from its use.

9. Cases approaching the pernicious stage require a special nurse and should be in a hospital. If seen early before the marked dehydration and severe acidoses, stop all food and liquid by mouth and give 2% to 5% glucose solution per rectum. 250 c. c. of the glucose solution containing from 30 to 60 grains each of sodium bromide and sodium bicarbonate may be given as a retention enema every four or six hours. As the nervousness is controlled reduce the bromides to 30 grains. After twenty-four or thirty-six hours, the patient may be allowed very small amounts of fluid and later solid food by mouth. Fluid may also be given by means of a duodenal bucket as was advocated by Kanavel in 1916.

10. Severe cases seen after marked dehydration is present should have 800 to 1,000 c. c. of N/NaCl under the breasts. When possible, they should have an 18 or 20% glucose solution in triple distilled water given intravenously according to the technic of Woodyatt, [1]Wilder, and Sansum. This solution may be prepared and administered according to the technic outlined by [2]Wells for use in influenzal pneumonia.

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[1]Wilder and Sansum: d. Glucose Tolerance in Health and Disease. Arch. Int. Med. 1917, 19, 311.

[2]Wells and Blankinship: Intravenous Injections of Hypertonic Glucose Solution in Influenzal Pneumonia. J. A. M. A., 1920, 74, 75.

11. Most of these patients are constipated. Various plans of treatment have been tried, but milk of magnesia and liquid petrolatum are the two forms of medication most commonly employed.

CASE REPORTS.

The following case is typical of benefits obtained from early management in cases of nausea and vomiting of pregnancy.

1. Mrs. M., primipara, aged 28, first seen 1-30-20. The last period began 11-23-19. Nausea began early in January and during the last week of January vomiting has occurred one or more times each day. 1-29-20 she had some backache and a little bloody vaginal discharge. The family physician gave codeine sulph. grs. ¼ by mouth and put her to bed. Examination the following day was negative. No more bleeding occurred. The patient was placed on the ant-acid dry diet with sodium bicarbonate tablet grs. x between meals and at bedtime. She was kept in bed five days. The vomiting was promptly stopped and nausea relieved. On a few occasions since she thought the management unnecessary, but a prompt return of nausea has each time warned her to continue with the treatment.

The following cases are typical of those to whom corpus luteum extract was administered hypodermatically.

2. Mrs. W., aged 30, para. 2, seen 9-28-19. Last period ended 7-14-19. Became nauseated few days later. Nausea not severe during August. The first of September following over-exertion and nervous tension she developed rather severe nausea and vomiting. Tablets of corpus luteum increased nausea. Patient developed acetone breath and diacetic acid in urine as result of starvation. 1 c. c. of corpus luteum solution was given at first twice daily and later once daily until a total of 18 ampules were administered. Sodium bicarbonate grs. 40 to 60 t. i. d. was given to combat the acidoses. The ant-acid dry diet helped control the vomiting, but the nausea persisted in spite of treatment until one week after the third month of pregnancy. The patient is now well, but is still using 10 to 20 grs. of sodium bicarbonate t. i. d. according to the reaction of her urine.

3. Mrs. P., aged 29, para. 3, first seen 12-10-19. Last period began 10-20-19. Nausea began 11-20-19 and has gradually increased in severity. Some vomiting at present. Nausea less severe with other pregnancies. History of threatened miscarriage when about one month pregnant with previous pregnancies. Patient complains of backache and some pelvic pain at present. Examination negative except for a prolapsed and tender right adnexa. Given 1 c. c. lutein solution b. i. d. for three days then on alternating days until 12 injections were given. Nausea not relieved. Patient was then put on ant-acid dry diet with sodium bicarbonate grs. x t. i. d. Nausea relieved so long as diet was strictly followed and the patient remained in bed. Owing to the nausea, backache and pelvic pain the patient was kept in bed most of the time until the middle of January. She is now in good condition.

4. Mrs. R., aged 28, primipara, first seen 2-6-20. Last period began 10-11-19. Patient felt perfectly well until she went to bed with influenza 10-2-19. The temperature reached 101 the first day, but after two days returned to normal and has remained normal. Nausea developed soon after going to bed with influenza. Five days before examination she commenced vomiting and since then has continued. Examination negative, size of uterus corresponding to period of amenorrhoe. Patient was placed on dry ant-acid diet and given grs. 30 sodium bicarbonate t. i. d. She was also given three ampules of lutein during the next four days owing to a history suggesting ovarian insufficiency. Her periods have always been very irregular with intervals of two to three months. The dry diet and alkaline treatment promptly controlled the vomiting and after one week the nausea was entirely relieved. Patient was kept on diet for 1 month.

5. Mrs. D., aged 29, primipara. Last period began 9-18-19. Nausea and vomiting began 10-20-19. History of colitis and for several years subject to nausea and vomiting whenever bowels were upset. Placed on ant-acid dry diet, sodium bicarbonate grs. 30 t. i. d. until urine became alkaline and then grs. x, t. i. d., with milk of magnesia and liquid petrolatum to regulate the bowels. She was comfortable so long as she followed diet and spent her mornings in bed. Two injections daily of corpus luteum extract for six doses, then once daily for six doses, and after a one week interval, six more. No apparent benefit from the hypodermics. The patient has had to continue with the diet and sodium bicarbonate.

6. Mrs. P., aged 22, history of 2 miscarriages at about 2½ months. Last period 12-13-19. Patient developed severe nausea with vomiting 1-25-

20 combined with little bloody vaginal discharge. She was under treatment at time pregnancy occurred and was taking 5 grs. lutein extract b. i. d. with sodium bicarbonate grs. x t. i. d. Her uterus was supported with pessary as former miscarriages may have been due to a retroflexion of the uterus. Ant-acid dry diet was now advised, but not strictly followed. 15 gr. tablet effervescing triple bromide was given one-half hour before breakfast for few days. In six weeks she used about thirty tablets of the bromide. The patient was kept in bed. During the first week six injections of lutein were given. The bloody discharge disappeared after a few days followed by a slight watery discharge for another week. 2-7-20 the nausea was practically gone. However on 2-9-20 following a little indiscretion in diet (kind friend's pastry) the nausea and vomiting returned and so severe that the following day a nurse was secured. During the next four days 8 more injections of lutein were administered. Twenty-four hours after the arrival of the nurse the nausea and vomiting was again controlled. She has been kept in bed most of the time owing to history of miscarriages. The lutein was used with hope of its lessening the danger of another miscarriage. This patient aborted 3-24-20 as this paper was ready for publication. The embryo was 13 c. m. in length and perfectly formed. The placenta will be studied for evidence of chronic degeneration.

Since entering the specialty of obstetrics and gynecology, the writer has seen only three cases with the pernicious vomiting of pregnancy.

1. Mrs. D., para 2, aged 25. Entered on my service at Presbyterian Hospital, Chicago, Jan. 2, 1916, with a history of melancholia following first pregnancy from which she gradually recovered. With the present pregnancy she had attempted to produce an abortion with drugs. Owing to her past history and poor condition from severe vomiting when admitted to the hospital, an abdominal hysterotomy and resection of the tubes under local anesthesia was advised in consultation. The vomiting stopped shortly after operation and recovery was complete. During the following three months the patient increased from 74 pounds at time of operation to 98 pounds.

2. Mrs. C., Madison, Wis., para 2, seen 2-17-17 after two local physicians in consultation had agreed that the uterus should be emptied. But owing to her marked dehydration, rapid pulse and general condition she was considered a poor operative risk. When about six weeks pregnant she had a tooth extracted under ether anesthesia. Following this she developed nausea and vomiting. The physician in charge at that time gave 5 gr. doses of corpus luteum extract by mouth. The treatment tended to increase the nausea and vomiting. The middle of February a second physician took charge of the patient. He used the solution of corpus luteum hypodermically and owing to the extreme nervousness gave an occasional hypodermic of morphin or other opiate. The condition was getting worse so she was taken to the Madison General Hospital and a surgeon called in consultation. The morning of the second consultation in which the writer participated she was given 800 c. c. of N/NaCl under the breasts as a preliminary to emptying the uterus. The history suggested that the opiates had been partially responsible for the present condition as she became much more nauseated after each injection. The patient was very anxious to have the pregnancy continue and willing to try treatment for another twenty-four hours. After carefully considering every possibility it was agreed to try the glucose solution with dram doses of bromides and sodium bicarbonate per rectum—as outlined under *nine*. The patient made a gradual recovery under the plan of treatment as given above. Later it was reported that a still-born fetus abnormally developed had been delivered prematurely.

3. Mrs. Y., aged 34, primipara, examined at the office 1-15-17. She was then about eight weeks pregnant and having a little nausea, but no vomiting. 2-6-17 I was called to the house because of vomiting. She was put on dry ant-acid diet and by 2-13-17 the condition was apparently under control. She was seen again 2-19-17 and seemed in good condition. On 2-28-17 the husband reported that for two days she had been unable to keep anything on her stomach. At that time the systolic blood pressure was 94 m. m. and the pulse 128. The urine showed acetone and a distinct trace of albumen by Heller's test. Everything was stopped by mouth and a 5% glucose solution with triple bromide grs. 30 given per rectum. The following day the nausea was better but the pulse remained 128. She was given 1 c. c. corpus luteum extract hypo., b. i. d. for eight doses. 3-2-17 there was no nausea, but patient complained of marked dizziness. The next day she could take food without nausea or vomiting, but complained of being unable to see clearly; the pulse was 136, respira-

tion 24, temperature 98. The following day she became irriational. The pulse varied from 124 to 140. The urine contained acetone, but no albumen or casts. During the next twenty-four hours the nurse reported that she was seldom rational. The pulse remained around 140, of poor quality, respirations 21, temperature 98. The family physician ordered digalen hypo. 1 c. c., q. 6 hours. 3-9-17 as the delirium continued and the heart condition was no better she was taken to the I. C. Hospital, Chicago, and the cervix dilated and packed to induce labor. She was now about 4½ months pregnant. Twenty-four hours later she was again taken to the operating room and the uterus emptied by vaginal hysterotomy. The fetus was slightly macerated apparently having been dead only a few days. On admission to the hospital the urine showed both acetone and diacetic acid, contained a trace of albumen and sugar and microscopically a few hyaline and granular casts; p. 142, r. 28, t. 99.

Following the emptying of the uterus the mental condition seemed to improve for a few days and the patient asked about "her baby." After learning that she was not to have the baby there was a relapse. Ten days after emptying the uterus the pulse ranged from 98 to 120, the temperature from 98.2 to 99 and the respiration from 26 to 28. She was taking a fair amount of nourishment and we had hopes for her recovery. But 3-24-17 she became worse and died three days later of what was thought to be a myocarditis. An autopsy was not permitted.

DISCUSSION.

[1]Emge and others have shown that there is a mild degree of acidosis present in every pregnant woman. Tests made in the laboratory of Columbia Hospital, Milwaukee, indicate that the Van Slyke readings are at or below the low limit of normal even in the early weeks of pregnancy. It is a common observation that pregnant women have an increased falling of the hair and more rapid decay of their teeth. They are very prone to suffer from heart-burn. The urine is usually highly acid. All of these conditions are worse among the women who suffer from the nausea and vomiting of pregnancy. It is, therefore, logical to give alkaline treatment in the hope of relieving some of these symptoms. The results are very gratifying.

The amount of sodium bicarbonate or alkaline water required to neutralize the acid condition of the body varies widely. Many different plans may be suggested, but the one now followed by the writer is the use of enough sodium bicarbonate in tablet form to keep the urine neutral or faintly alkaline. The tablets are urged since not being quickly dissolved in the stomach they are less apt to interfere with normal gastric function. Given midway between meals and at bedtime the sodium bicarbonate will not disturb digestion. Calcium salts are also needed especially in the latter months of pregnancy. These may be obtained from milk, calcium lactate, or by drinking certain prepared waters containing them. The writer continues with the tablets of sodium bicarbonate throughout pregnancy. Clinically obstetrical patients are very much benefited by the alkaline treatment. By means of blood studies now being made during pregnancy, labor and the puerperium, we hope to prove experimentally the importance of keeping down the hyper-acid conditions of the system during pregnancy.

The use of corpus luteum extract in early pregnancy is based on the supposed physiological action of the corpus luteum in pregnancy. Both corpus luteum extract and thyroid extract stimulate metabolism. The corpus luteum undoubtedly plays an important, although unknown role, in the early development of the ovum, and any destruction of it during the first trimester is usually, if not always, followed by an abortion. The writer has, therefore, used corpus luteum extract in cases with a history of early miscarriage and when the history suggests an ovarian insufficiency. It is not possible to measure the value of corpus luteum as we never know what would have happened without the hypodermics. Our observations thus far indicate that it will not relieve the nausea and vomiting of pregnancy except in the type of case which is promptly relieved by mental suggestion or any one of the different drugs which have been recommended in the past. But contrary to our observations J. C. [1]Hirst believes that of 111 patients he treated for the nausea and vomiting of pregnancy 89.2 per cent were benefited from the hypodermic administration of a solution of corpus luteum extract. He reports that sixty-five were entirely relieved and thirty-four more made so comfortable with 12 doses that they considered further injections unnecessary. In eight of Hirst's cases there was no improvement, two later having therapeutic abortions. Four patients who had goitres were made worse by the treatment. It is believed that many of the cases treated successfully with corpus luteum extract would have fared as well or better with the ant-acid dry diet and alkaline treatment. Hirst acknowledges that some of his patients who were worse after the use of the hypodermic improved after the use of stomach lavage and bromides. The expense of administering the twelve hypodermics advocated is too great for the average patient, and, in view of the uncertain benefits, I believe the corpus luteum extract should be reserved for the exceptional case.

Focal infections as a source of trouble during preg-

[1]Emge, L. A.: Acidosis in Pregnancy. Am. J. Obst. 1918, 77, 813.

[1]Hirst, J. C.: Control of Nausea and Vomiting of Pregnancy by Intramuscular Injections of Corpus Luteum Extract. Am. J. Obst., N. Y., 1919, 79, 327.

nancy has been emphasized by J. E. [2]Talbot who believes such foci are responsible for the various toxemias of pregnancy. A careful examination of patients under his care for severe toxemias of pregnancy have all revealed some source of infection. Two of the three patients with pernicious vomiting of pregnancy had "the mouth full of carious teeth, the gums markedly inflamed and full of pus." For a number of years I have carefully examined the teeth of every pregnant woman as a routine procedure. Infection about the roots of teeth may be detected, as a rule, by trans-illumination with a small light such as is used for examination of the antrum. Suspicious teeth are X-rayed. However, in the three cases of pernicious vomiting here reported no evidence of focal infection could be found. Many women with badly infected teeth go through pregnancy with no nausea or vomiting and show no signs of toxemias, and it is therefore believed that foci of infection are only contributing factors in the toxemias of pregnancy. I agree with Talbot that all such foci are dangerous to the pregnant woman and demand thorough treatment.

The ant-acid dry type of diet has been recommended without a definite statement as to just what foods the patient should use. It has been found easier to warn patients against the use of the foods known to cause trouble and leave the choice to the wishes of the individual. For instance most fruits seem to increase the gastric discomfort, but at times an orange or pineapple is well borne. Apples, grape fruit, bananas, and the acid vegetables such as tomatoes, rhubarb, cantaloupe, all tend to increase the gastric distress. Some patients do better with frequent small meals. New patients frequently say they are relieved of nausea by eating between meals. I advise most patients to get Bents' water crackers and eat one the first thing in the morning or at other times during the day when they feel nauseated. The lack of salt and extreme dryness make these crackers particularly valuable. The recent articles of Lynch and Titus tend to confirm our suspicion that it is the general management rather than any fixed diet which is important.

[1]Lynch in his paper read before the A. M. A. in 1919 says:

"The type of food varies within limits yet at no time should it include fruits or sweets. It is necessary that it should be given as dry as possible and the meal should be of the solid type. The hyperacidity group respond quickly to a diet of proteins, limited fats and restricted carbohydrates. The glucose by rectum supplies the deficiency of the carbohydrates, while the sodium bicarbonate is used to neutralize the acidosis. I have found nothing as useful as the diet of meats, twice toasted bread with butter, and a small amount of milk and cream, to be taken as a ration, all or none. A day. Fluids by mouth are withheld for many days and until the diet has been extended to include vegetables. Then we give alternatively solid and fluid meals—in small amount and at frequent intervals."

[2]Titus in a recent paper emphasizes the importance of the carbohydrate and alkaline treatment in pregnancy. That is if the carbohydrates and sodium bicarbonate which give the relief rather than the particular manner of administration is shown by the markedly different plans followed by Titus and the writer. His menu is liberal in both fruit and fluids but contains no meat. The writer's diet is mid-way between that of Lynch and that of Titus in that I allow no liquids or fruits with meals; restrict meat to a small helping once per day and so far as possible eliminate fats.

It is believed that the dry type of diet high in carbohydrates and low in fats and proteins, together with sodium bicarbonate in tablet form midway between meals and at bedtime, will more frequently give relief than any other plan of management thus far suggested. However, each case must be studied individually and the management adapted to the peculiar needs of that patient. No plan of treatment can be expected to correct every case providing we are correct in our belief that the nausea and vomiting of pregnancy results from a disturbed metabolism. Studies of the liver efficiency and deficiency in health and disease may yet solve this much discussed problem.

[2]Talbot, J. E.: Focal Infection and Its Relation to Obstetrics. J. A. M. A., 1920, 74, 874.

[1]Lynch: Treatment of the Severe Vomiting of Early Pregnancy. J. A. M. A., 1919, 73, 488.

[2]Titus, Hoffman and Givens: The Role of Carbohydrates in Treatment of Toxemias of Early Pregnancy. J. A. M. A. 1920, 74, 777.

THE DOCTOR AND THE PUBLIC HEALTH.*

BY C. ST. CLAIR DRAKE, M. D.,

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Public health as a distinct part of governmental activity and as a special scientific vocation is of relatively recent development. At the time of the creation of the Illinois State Board in 1879,—a matter of forty years ago—Dr. John H. Rauch, the Secretary of the first Board of Health, was regarded as a pioneer in public health activity and Illinois claimed the credit of being one of the earliest states in the Union to devote attention to the protection of the lives and health of her people. But at that recent date, public health had only a remote resemblance to the preventive medicine of the present day. The State Department of Public Health of forty years ago, of thirty years ago, or of twenty years ago, devoted itself almost entirely to the suppression of communicable diseases after an epidemic had occurred or to the suppression of nuisances which made themselves

*Presented before the Tri-State District Medical Association of Illinois, Iowa and Wisconsin, Rockford, Illinois, Sept. 1-4, 1919.

known by noisome odors or offensive appearance and which may or may not have had anything to do with human illness.

In fact, these old time organizations were designed and maintained chiefly to meet emergencies and were relatively dormant and inactive between periods of public catastrophe. It must be borne in mind that at the time of the establishment of the Illinois Department of Health, the causes and means of prevention of most of the communicable diseases were wholly unknown. There were few local health departments and those that existed were usually headed by laymen who served more in the capacity of policemen than as sanitarians or health officials. For the most part, the health adviser of even the towns of considerable size was the family physician who added this duty to his manifold functions as physician, surgeon, obstetrician, dentist and not infrequently other activities having little or nothing to do with his professional life. Even a brief review of the public health development of the nation would be inadequate and incomplete without a tribute to the medical profession which has given us our scientific basis for modern public health and to the hardy pioneers who served without remuneration and without reward as the health counselors of their communities.

The public health official of the present time speaks an entirely different language from that employed by his predecessor of forty years ago and practices an art which was entirely unknown in a previous generation. The modern health officer follows a distinct specialty which, in its important medical phases, differs more from the general pursuit of medical practice than dermatology does from abdominal surgery. In addition to these medical phases of public health, however, there are numerous other elements essential to the development of public health work which have little to do with the practice of medicine in any way. The modern health officer must be conversant with a large part of medical knowledge, it is true, but this knowledge must be supplemented by a knowledge of government, of law, of administration and of executive control which have little to do with the treatment of the sick. As a matter of fact, the public health of the present day, while closely associated with general medicine, is so distinct a specialty that several of the larger universities, giving courses for health officers, do not require a medical degree as a pre-requisite.

It is my personal impression that a broad, general knowledge of medicine and of medical practice is of distinct value to the public health officer, not that the complete course in medicine is essential to him in the pursuit of his calling but chiefly because his medical experience affords him a greater knowledge of the problems that confront the physician and acquaints him with the point of view of the medical profession, for however widely preventive medicine may depart from medical practice, there will, of course, always be a close and important inter-dependence between the public health official and the medical profession.

Yet it seems to me quite necessary that the physicians of the nation, engrossed though they may be in their arduous duties, shall observe the rapid strides with which preventive medicine is becoming a distinct specialty and that these physicians shall endeavor to understand more clearly the viewpoint which the public health official must assume if he is to conscientiously, scientifically, intelligently and effectively carry out his duties of health conservation along modern lines. They should come to recognize that the old order of things has changed and that the modern health officer cannot be measured by the standards of years gone by.

There still prevails the idea that the physician is qualified to serve as health officer merely by virtue of his professional education and experience; there are still occasional unfortunate instances of the use of the health officership as a haven for the aged or needy doctor; but the ranks of qualified specialists in the distinct art of preventive medicine are gaining so rapidly that there is no longer any justification for the assumption that the health officer is in any way the man who has failed in the general practice of medicine. The man who becomes a health official because he is old, because he is decrepit, because he is financially crippled or because he has failed to make good in other lines of work, will almost invariably fail to measure up to the modern standards of public service, while the attempt, once very common, to combine private practice with public health service, as illustrated in the part-time health officer, is rapidly being abandoned as impractical and inefficient.

It is exceedingly difficult and embarrassing for the health officer to carry out the duties imposed upon him fearlessly and effectively when he is himself engaged in practice in competition with other physicians and such a health officer is likely

to fail in his public obligations because the demands of his private practice may be greatest at just the time when he should devote his undivided attention to the public welfare. In fact the tragic general breaking down of local health departments during the influenza epidemic of the past fall and winter was largely due to part-time health officer service and the desertion of public obligation in the interest of greatly increased private practice.

In the past, it has been difficult to attract competent and qualified health officers on account of the niggardly compensation accorded them; but the awakening influence of the war and the increasing popular interest in matters of health are gradually loosening community purse strings.

During the past decade, a number of radical changes have been introduced in the practice of preventive medicine and the wisdom of these innovations has been amply proven by our experiences within the past two years when the highest degree of efficiency in health promotion and disease prevention seemed essential to our successful promotion of the war. Without understanding clearly the changing attitude of governmental agencies and the conditions which have presented themselves to health officials, it is but natural that the general practitioner should have looked upon these innovations with question if not with open suspicion and yet it is interesting to note that, whenever the practicing physician has taken the time and trouble to study modern public health problems, he has almost invariably concurred in the policies which are being employed and has commenced the newer developments as indicative of more efficient and more intelligent means of health control.

Prior to the war, health authorities were confronted by three great problems in disease prevention and health promotion and I regret to say that, in the majority of instances, these health officials did not rise to their opportunities until compelled to do so by war-time emergency and by overwhelming popular demand.

During the war, however, it became tragically obvious that the cost of this neglect on the part of the health officials was more than the public was willing to bear. Exemption boards and military examiners brought to light a prevalence of tuberculosis and of venereal infection that came as a serious jolt to our national pride and shocked health officials into a belated activity. On the other hand, the great prevalence of general physical debility found by exemption boards indicated the urgent need for more intelligent preventive measures in dealing with children, while the problem of repopulation of the war-stricken European nations gave to child life and child welfare a new and convincing importance.

It consequently became necessary to develop with all possible speed, the machinery essential to meeting these problems and now that the armistice is signed and the war is over, no conscientious official can step backward. He must go forward trusting in the sympathetic co-operation of an enlightened and public spirited medical profession; but at any rate he must go forward.

In meeting the problem of venereal disease, of tuberculosis and of child welfare, and to a certain extent in dealing with poliomyelitis, extensive clinical work has been imperative and this essential phase of modern preventive medicine, in certain rare instances, has been looked upon with suspicion by the medical profession.

There is no question but that public dispensaries have at times been abused; but it is none the less true that wherever public clinics have been operated and associated with broad educational campaigns, enormous public good has been done and the members of the medical profession have directly profited. Wherever there is a good tuberculosis dispensary, private physicians find more requests for physical examinations; wherever infant welfare stations are operated, doctors are in more demand for the care of the children of the well-to-do; wherever there is a good venereal disease clinic, patent medicines, quackery and counter-prescribing are discouraged and intelligent treatment is more generally sought from the medical profession. Opposition to such public health clinics almost invariably disappears when the clinics are once fairly established.

It is fortunate that these health activities are of direct benefit to the medical profession because they are absolutely essential to a successful attack on the most vital of health problems; but if they were not profitable they would still have to go on and they would be supported by the higher class of the medical profession. A more enlightened public appreciates the need for them and insistently demands them and we are now coming more and more to realize that general public welfare must be promoted regardless of individual interest.

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In this connection, however, I want to be distinctly understood as being opposed to the abuse of public dispensaries and of being convinced that medical service for clinics and dispensaries should not be gratuitously rendered. With the increasing cost of living, practically every thing has advanced except professional compensation and there is no more reason why the public should expect free service from medical men than it should expect uncompensated service of nurses, free rent or free commodities from the merchant.

But the awakening to the fact that the interest of the public is paramount to the interest of the individual patient has come. Public sentiment condemns the physician who endangers the lives of the community in failing to report communicable disease as a means of currying favor with his individual patrons. The intelligent public regards the reporting of contagious disease as it does the reporting of a fire,—as the means of preventing general conflagration—and the public believe that, in accepting the special privilege of medical licensure, the doctor obligates himself to aid in conserving human life.

Regardless of our own feeling about it, the public is coming to believe that the doctor does not completely earn his obstetrical fee until he has taken precautions to prevent ophthalmia neonatorum and has reported the birth to the proper public official.

The greatest strides in public health have come through the broader education of the people as a whole and I foresee, in the not very distant future, a public sentiment so established that the physician who ignores health laws and public obligations will lose caste and patronage thereby and that greater and more material recognition will be accorded the doctor who does his full duty to the public. In that day, I foresee better provision for the medical profession,—good laboratory facilities maintained at public expense in every community; general suppression of quacks and charlatans; the discouragement of counter-prescribing and the payment of fees and emoluments commensurate with the actual value of health and life so far as these can be measured in dollars and cents.

The awakening of that public sentiment and the appreciation of the importance of public health was observed in the far-seeing vision of Governor Frank O. Lowden, of Illinois, when he drafted the now famous Civil Administrative Code of the State. Under the provisions of that epoch-making instrument, several hundred state boards, commissions and bureaus were combined into nine departments and one of these nine major divisions was devoted solely to the promotion of health and prevention of disease. The department was relieved of such functions as examination and licensure of physicians and was created a simon-pure health department. I regret to see that Idaho, the first of several states which will eventually adopt Governor Lowden's plan of state government, did not accord to health the place to which Governor Lowden felt it is entitled. However, with the present trend of public sentiment, all states will give more and more attention to the health of their people and the health officers will become more and more essential to the successful conduct of the community.

As I see it, this progress will now be rapid. There have come back from the war hundreds of physicians who have had rigid schooling in health conservation, many of whom will prefer continued public service to the resumption of private practice and there have come back to all parts of the country, hundreds of thousands of young men,—the men of affairs of the present and the coming generation—who have acquired a new idea of the importance of health and who have been schooled in cheerful and ready acquiescence in health regulation. The new specialty of preventive medicine is coming into its own under remarkable conditions and under most auspicious circumstances.

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O'Ryan knocked at the door.

"Does the widdy Casey live here?"

"This is Mrs. Casey, but I'm no widdy."

"The Hell ye're not; wait 'till yez see what's comin' up the road on a shutther."

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Self recording thermometers keep records of the temperature during the process of sterilization. There is no guess work as to the accuracy of the individual in charge of the sterilization plant. The charts of the recording thermometers tell the story. These excellent facilities make it possible to sterilize thousands of gross of ligatures at the same time and thus obtain a product of perfect uniformity and absolute sterility.

Armour and Company are equipped to supply ligatures in large quantities and have gone to great expense to ensure perfection of the product sold under the Armour label.

CELEBRATES THIRTIETH ANNIVERSARY.

The Thirtieth Anniversary of the founding of The Abbott Laboratories, is being celebrated this month. This firm has recently established the precedent in the pharmaceutical field of placing their employes on a profit sharing basis.

It is a notable fact and one worthy of commendation that more new medicinal chemicals, and council-passed products have come from the house of Abbott during the past five years than from any other firm in this country.

THE COUNTRY DOCTOR.

(WILL CARLTON.)

There's a gathering in the village, that has never been outdone
Since the soldiers took their muskets to the war of 'sixty-one:
And a lot of lumber wagons near the church upon the hill,
And a crowd of country people, Sunday-dressed and very still.

Now each window is pre-empted by a dozen heads or more,
Now the spacious pews are crowded from the pulpit to the door;
For with coverlet of blackness on his portly figure spread,
Lies the grim old country doctor in a massive oaken bed.
Lies the fierce old country doctor,
Lies the kind old country doctor.
Whom the populace considered with a mingled love and dread.

Maybe half the congregation, now of great or little worth,
Found this watcher waiting for them, when they came upon the earth;
This undecorated soldier of a hard, unequal strife,
Fought in many stubborn battles with the foes that sought their life.

In the night-time or in the day-time, he would rally brave and well.
Though the summer lark was fifing, or the frozen lances fell;
Knowing if he won the battle, they would praise their Maker's name,
Knowing if he lost the battle, then the doctor was to blame.

'Twas the brave old virtuous doctor,
'Twas the good old faulty doctor,
'Twas the faithful country doctor—
Fighting stoutly all the same.

UNREQUITED LOVE.

A scientist of great renown
One day resolved to settle down;
And so, to make complete his life,
He sought an antiseptic wife.
"I cannot," he remarked, "endure
One that's not chemically pure.
Her kisses, to be duly prized,
Must be the kind that's sterilized.
In her vicinity, indeed,
No germ must carry out its creed."
He sought in vain, for try his best
No maiden could survive the test;
Till, restless and dissatisfied,
He vowed that he would make a bride.

With powders and retorts he toiled,
Made up a mixture, which he boiled,
And while this mixture was quite warm
He shaped a lovely angel form,
Infused it with the vital fire,
And then—attempted to draw nigh her.
But thus she scorned him: "Nay, desist,
You microbe-laden scientist!
Come hurry up and quickly make
A germless lover for my sake!"
As one at last who understands,
The scientist held up his hands
And cried: "Alas, too late I learn
A septic lover should not yearn!"

—Chesterton Todd.

THE WISCONSIN MEDICAL JOURNAL

STATE MEDICAL SOCIETY OF WISCONSIN — MEDICINA NUSQUAM NON EST

Owned and Published by the State Medical Society of Wisconsin

ROCK SLEYSTER, M. D., Secretary-Editor
J. P. McMAHON, M. D., Managing Editor

VOLUME XVIII. NUMBER 1 — MILWAUKEE, WIS., JUNE, 1919. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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[Entered as second class matter, June 30th, 1903, at the Post Office at Milwaukee, Wis., under Act of Congress March 3rd, 1879.]
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1. Research

THE house of Parke, Davis & Co. came into existence fifty-two years ago It is proper to ask what motives have actuated it during this long period of service to the medical profession.

Both Mr. Parke and Mr. Davis, with prophetic vision, realized from the first that if the company was ever to become big and great, it must represent some definite, fundamental ideas. It must give the world something that the world did not possess before.

What fundamental ideas did the house come to represent? One of them was research work!

Long before it could well afford to do so, the company spent thousands upon thousands of dollars in original investigation. In the early days, for example, when the vegetable materia medica played a larger role than it does now, we were instrumental in placing many new plant drugs at the disposal of the physician. Twenty-one of these drugs subsequently became official in the National Formulary and the United States Pharmacopœia.

Later on, in the orderly evolution of the materia medica, original work was undertaken in the realm of chemical and biochemical investigation, and this resulted in the discovery of a considerable number of medicinal agents that proved of distinct value to the physician. Of many such products we need mention only Adrenalin, Pituitrin and Apothesine to suggest the importance of these introductions.

During the last twenty-five years our researches have been especially devoted to subjects in the field of biological and glandular therapy. As early as 1894, indeed, we established a laboratory for the production of antitoxic serums, and since that time we have developed a research staff unequaled by any other commercial organization, and unsurpassed, perhaps, by any agency in the realm of medical investigation.

It is not our purpose to enumerate the new vegetable, chemical, biological and glandular products that we have introduced to the medical profession from time to time. Our object is merely to indicate the part we have played in the development of the materia medica during the last fifty-two years.

From the very first we have dedicated ourselves to original investigation. And not always has it been the object of our research work to turn out marketable products. We have frequently spent large sums in exhaustive investigations which in all probability would never lead to any commercial advantage, but which were undertaken with the primary desire to be of service to the medical profession and to humanity.

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ROCK SLEYSTER, M. D., Secretary-Editor
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It was back in 1879, four decades ago, that we brought into existence the first standardized preparations of vegetable drugs. We called them "Normal Liquids," but this title was soon changed to "Fluid Extracts."

For the first time in the history of medicine scientifically accurate preparations were placed at the disposal of physicians. We immediately published the results of our researches and advocated the extension of chemical standardization to all galenical preparations as quickly as proper methods could be devised.

A long fight ensued. Our competitors accused us of attempting to foist a fad on the medical public. Others charged us with commercial insincerity. We were met with ridicule and opposition on every hand.

Later on, in 1897, we took the next step by adopting the principle of physiological standardization. We had found in the meantime that certain drugs would not lend themselves to chemical assay—drugs like aconite, ergot, cannabis, digitalis, and strophanthus. So we tested them on living animals and worked out standards of potency and uniformity.

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As for ourselves, it may be said that today no less than one thousand and five of our products are rendered uniformly accurate and reliable through the standardization of one or more of their ingredients.

As we were the first to practice standardization, so have we always been its chief exponents, and we are today giving it the benefit of more constant study and a far wider application than any other manufacturing house in existence.

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VOLUME XVIII. NUMBER 3 — MILWAUKEE, WIS., AUGUST, 1919. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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The three subjects are closely related. The purpose of Research is to bring out new products and to improve old products. The purpose of Standardization is to establish therapeutic uniformity. Quality depends very largely upon the success with which these two purposes have been accomplished.

The house of Parke, Davis & Co. has been in existence for fifty-two years. During this long time it has steadily grown in the confidence and esteem of the medical profession.

Why?

Because physicians knew that we were bending every effort to turn out medicinal agents of the very best character obtainable. Because quality was always put above every other consideration.

The other day our chief chemist, in talking to a group of Parke-Davis salesmen, said:

"Gentlemen, I want to tell you one thing that you may not know. I can perhaps express it best by saying that our scientific department and our commercial department are absolutely independent of each other.

"What do I mean? I mean this—that when we in the scientific division are bringing out a new product, or improving an old one, we never pay any attention to cost. We never consider cost at all. We work on a product for months or years, if necessary, until it is as nearly perfect as we can make it. Then, when the last word is said, the cost is figured—and it isn't figured until then.

"The commercial department takes this cost and establishes a selling price. It doesn't start in at the outset by telling us that we must keep within a certain cost. It doesn't turn the product back to us afterward and tell us that we must reduce the cost. We are left absolutely unhampered, and the only thing that we must consider is the highest possible ideal of quality."

This purpose has actuated our house from the very beginning. It furnishes the reason why Quality and Parke, Davis & Co. have come to be considered as synonymous terms. When physicians use an article of our manufacture they know that it is absolutely the best that science can produce.

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VOLUME XVIII
NUMBER 2

MILWAUKEE, WIS., SEPTEMBER, 1919.

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A business enterprise may endure for a time on some other foundation, but any great organization without honesty as its fundamental support is little better than sounding brass or tinkling cymbals. Its end is certain and inglorious.

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VOLUME XVIII. NUMBER 5 — MILWAUKEE, WIS., OCTOBER, 1919. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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It means that 2400 physicians in the United States are coöperating with us daily in testing out new products. In this group are to be found many of the ablest specialists and general practitioners in the medical profession of America.

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These physicians coöperate with us in the interest of medical science. They are not paid for their work, and their names are never used. Our relationship with them is one of supreme confidence on both sides.

If this expert jury decides that a product is valueless, that product is promptly discarded, even though thousands of dollars and years of time may have been spent in its development. If, on the other hand, it is found to be one of great usefulness, then we are prepared to go before the medical profession feeling that we have something which we can offer with every confidence in its therapeutic efficiency.

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ROCK SLEYSTER, M. D., Secretary-Editor
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VOLUME XVIII. NUMBER 6 — MILWAUKEE, WIS., NOVEMBER, 1919. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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[Entered as second class matter, June 30th, 1903, at the Post Office at Milwaukee, Wis., under Act of Congress March 3rd, 1879.]
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Our principal function is to coöperate with the physician by placing at his disposal for the treatment of disease the most effective medicaments which science can produce. These medicaments may be old and familiar agents, in which case our purpose is to bring them up to the highest pitch of improvement. Or they may be entirely new contributions to the materia medica of the day. In either event continuous research and experimentation become imperatively necessary.

And so, as the years have rolled on, we have gradually built up a Research Laboratory of which we are proud. It stands out on the bank of the Detroit River, apart from our main plant, and its very isolation typifies the spirit of the enterprise. Here our investigators are surrounded with the true atmosphere of research work. They may spend months and even years in the completion of a given task, and the only obligation is that they shall do it conscientiously and well.

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At the present time our research work is separated into sixteen sections. Over each section is a man of specialized training, and he is frequently of national and even international reputation. Each investigator has one or more technicians and other assistants, and altogether there is a research staff of about seventy.

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VOLUME XVIII. NUMBER 7 — MILWAUKEE, WIS., DECEMBER, 1919. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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VOLUME XVIII. NUMBER 8 — MILWAUKEE, WIS., JANUARY, 1920. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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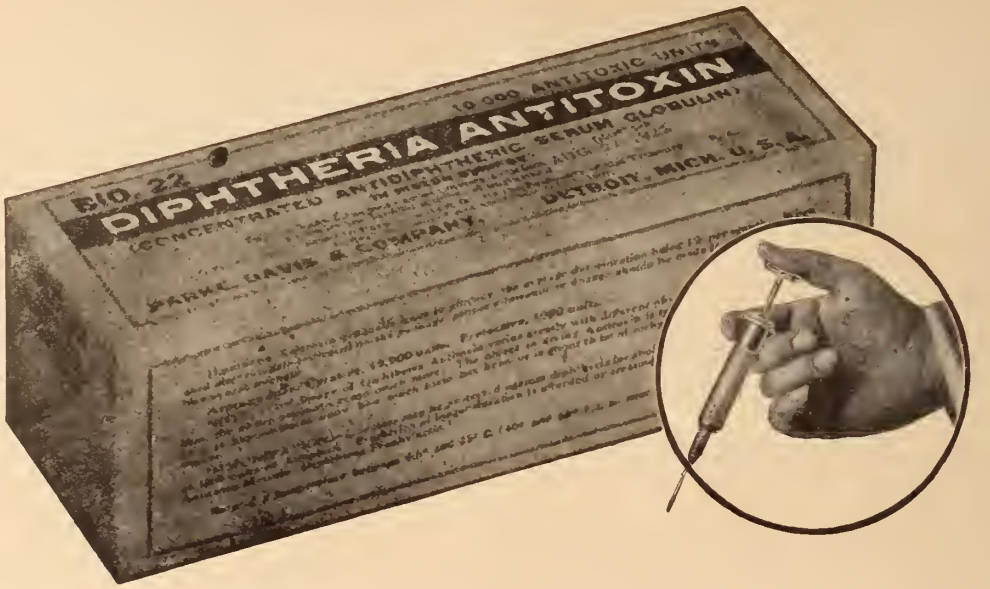

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VOLUME XVIII. NUMBER 9 — MILWAUKEE, WIS., FEBRUARY, 1920. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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Parke, Davis & Company were only twelve years old as a house when they realized the necessity of greater uniformity in therapeutic agents and gave to physicians something they had never had before—chemically standardized drug products. The importance of this service was promptly recognized. In a comparatively short time assayed medicinal agents were everywhere in demand by the medical profession.

A few years later the need of a more efficient means of treating diphtheria became a prominent subject of discussion in medical circles. In November, 1894, the International Congress of Hygiene met in Budapest. Diphtheria antitoxin was announced to the world. Parke, Davis & Company immediately began the manufacture of this product. Biologic therapy was thus introduced to the Western Hemisphere.

The establishment of a biologic laboratory paved the way for further opportunities to meet the needs of physicians. Physiologic standardization of drug products became an established procedure. This notable contribution solved the problem of adjusting to definite standards of strength such potent drugs as ergot, digitalis, strophanthus and cannabis indica—drugs not amenable to chemical assay.

Later, medical men began to turn their attention to the use of endocrine products. Physiologic standardization made it possible to supply physicians with uniformly active glandular preparations.

There is an insistent demand today for improved methods in hypodermic medication. Parke, Davis & Company's answer to this demand is a growing list of sterilized ampoule solutions.

The business of this organization is to study the medicinal needs of the physician, and to meet those needs with efficient therapeutic agents.

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VOLUME XVIII. NUMBER 10 — MILWAUKEE, WIS., MARCH, 1920. — PER YEAR $2.00 SINGLE COPY 25 CENTS

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Parke, Davis & Company sent botanical experts into various sections of the United States and Canada in search of new drugs. One expedition went to South America, where it journeyed three thousand miles down the Amazon and spent two years in collecting drug specimens.

The new drugs were first carefully studied in the laboratory. Fluid extracts were made and, together with specimens of the drugs, distributed to a large number of physicians throughout the United States, to hospitals, and to scientists connected with leading medical and pharmaceutical colleges. These investigators were invited to communicate the results of their researches, whether favorable or unfavorable, to the medical and pharmaceutical journals.

Subsequently the reports were collected, classified and published in a series of "Working Bulletins" as a definite contribution to medical science. Information was in this way properly correlated—information from medical practitioners, from hospital attachés, from scientific experts engaged in more extended research in pharmacology, chemistry and pharmacy.

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STATE MEDICAL SOCIETY OF WISCONSIN

Owned and Published by the State Medical Society of Wisconsin

ROCK SLEYSTER, M. D., Secretary-Editor
J. P. McMAHON, M. D., Managing Editor

VOLUME XVIII. NUMBER 11 | MILWAUKEE, WIS., APRIL, 1920. | PER YEAR $2.00 SINGLE COPY 25 CENTS

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[Entered as second class matter, June 30th, 1903, at the Post Office at Milwaukee, Wis., under Act of Congress March 3rd, 1879.]
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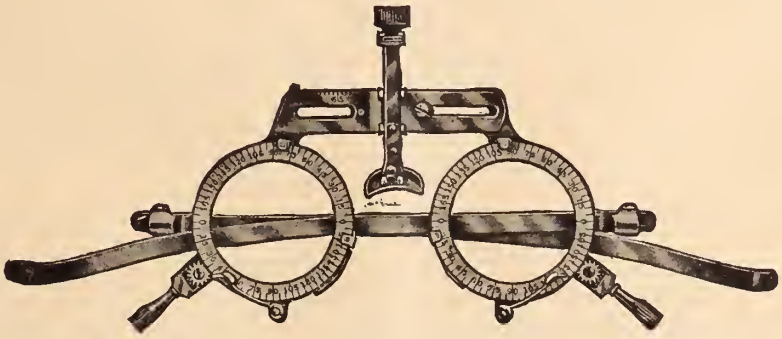

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